

Air University Research Bulletin

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Air University Research Bulletin
Spring 2003

Air University Commander's Welcome

By Lt Gen Don Lamontagne

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The mission of Air University is to provide the full spectrum of Air Force education, from pre-commissioning to the highest levels of professional military education (PME), including degree granting and professional continuing education (PCE) for officers, enlisted, and civilian personnel throughout their careers. The university's PME programs educate airmen on the capabilities of air and space power and its role in national security. These programs focus on the knowledge and abilities needed to develop, employ, command, and support air and space power at the highest levels. Specialized PCE programs provide scientific, technological, managerial, and other professional expertise to meet the needs of the Air Force. Air University conducts research in air and space power, leadership, and management.

Each year I send a call for topics letter to senior leaders within the Department of Defense (DOD), Air Force, MAJCOM's, combatant commanders and sister services requesting topics of interest for them, their commands and the national security community as a whole. Last year, we received over 330 topics in response to our call.

In this, the third edition of the *Air University Research Bulletin*, I am pleased to report we have collected and published over 150 research papers produced in 2002 by students attending our three Maxwell-based graduate schools—the Air Command and Staff College (ACSC), the Air War College (AWC), and the School of Advanced Air and Space Studies (SAASS). Also included in this collection of high quality student papers are research studies completed in 2002 by officers participating in our various Air Force Fellows programs at leading civilian universities and think tanks.

The *Research Bulletin* also highlights contributions in the area of research conducted by our military and civilian faculty at ACSC, AWC, SAASS and the College of Aerospace, Doctrine, Research and Education (CADRE).

The research support team at CADRE has been hard at work posting student papers and publications to the AU Research Web. In order to serve the community better a SIPRNET site has been set up at <http://research.maxwell.af.smil.mil/>. This site allows the immediate posting of papers given to us by the schools. Once the papers have cleared a security review, they are posted to the normal research web site. I encourage you to visit the site. The archive contains over 2,300 research studies consisting of papers, monographs and books—the best of AU research!

Research News Flash

To better serve the research community AU Research Web site is now on the EDU Domain.

<http://research.airuniv.edu> is online with the same collection of research studies as <https://research.au.af.mil>.

See a comprehensive list of Maxwell research for 2002 on page 22 of this issue.

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The *AU Research Bulletin* is distributed throughout the national security community in print form and is also available electronically at <https://research.au.af.mil> or <http://research.airuniv.edu>. This *Bulletin* is produced by the College of Aerospace Doctrine, Research and Education and by Air University Press, Air University, Maxwell Air Force Base, Alabama.

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AU Research Bulletin Overview

Research at AU

By Colonel Allan Howey, Acting AU Dean of Research

AU sponsors a variety of research programs. Our primary objective in publishing the annual *AU Research Bulletin* is to recognize the research accomplishments of AU faculty and students. Accordingly, we highlight faculty and student research, the latest AU Press publications, and the activities of AU's specialized research centers.

The *AU Research Bulletin* records faculty and student participation in conference and other professional activities that extend our knowledge in the core areas of the AU curriculum. The *Bulletin* tries to foster communication about a broad range of matters related to research at AU. The *Bulletin* is designed to help promote increased recognition of an important dimension of AU's service to the Air Force and the wider defense community.

The services and tools offered by the AU Library, the Air Force Doctrine Center (AFDC), the Air Force Historical Research Agency (AFHRA), and CADRE's Research Support Division contribute to the process of scholarly investigation at Maxwell. Accordingly, the *Bulletin* will also report on noteworthy developments in the vital area of research support.

We welcome your thoughts on ways to improve the *AU Research Bulletin*. Please send any comments to research.support@maxwell.af.mil.

AU Research Web Links Air University to the National Security Community

By Lt Col John Petito, Co-editor

The AU Research Web site was established to encourage research at AU and to provide the resulting papers in a format accessible through the Internet. Today, this site continues to serve as a link between AU researchers and the larger national security community.

Over 2,300 research papers from AWC, ACSC, AFIT, SAASS, the AF Fellows Program, and AU Press are now available at this web site. Because the "e-copies" of these papers were generated directly from the disk files of the authors, they are much better than a scanned version—they are smaller, higher quality, and allow cut-and-paste to other Windows programs. For the most part, these papers are available in Adobe Portable Document Format (PDF). To date, over three million copies of these studies were delivered via the Internet. Last year alone, the web site had over 2.5 million visitations.

This site features a topics database that is updated each summer through the AU Call for Topics coordinated by CADRE. Currently, this database has more than 330 research issues raised last summer by the senior staffs at unified commands and Air Force MAJCOMs, as well as issues identified by INSS and other agencies. The student research

programs at AWC, ACSC, and SAASS make use of these topics. Additional tools at this site are available to faculty and students who access the site from Maxwell.

Want a copy of one of the publications listed in the *AU Research Bulletin*? If it is formatted as a hyperlink, just open an electronic copy of the *Bulletin* from our web site and click on it to open the full study. Or, use the search tools to find it and related studies. Or, click on "Papers by Subject" for a quick summary of available papers on hot issues, such as homeland security. We have developed a new web site should the military web site go off line. The new web site, located at <http://research.airuniv.edu> will serve as a mirror site to its ".mil" cousin. The new site will ensure AU truly has a global presence.

The AU Research Web site really is a vital link between the AF graduate schools and the larger national security community they serve. For more information, browse to . . .

<https://research.au.af.mil>

<http://research.airuniv.edu>

<http://research.maxwell.af.smil.mil>

Research Programs at AU

By Lt Col John Petito, Chief, CADRE's AU Research Support Division

Research at AU includes both technological research undertaken primarily at AFIT at Wright-Patterson Air Force Base (AFB) in Dayton, Ohio, and research on doctrine, strategy, and the art of war conducted at the schools at Maxwell AFB, Alabama: AWC, ACSC, and SAASS.

AFIT's research program is supervised by Dr. Heidi Ries, Associate Dean for Research, Graduate School of Engineering and Management (AFIT/EN), Heidi.Ries@afit.edu. Research accomplishments from AFIT are featured in the new *AFIT Research News* publication—a color newsletter to be published three times per year. Browse to www.afit.edu/enr for an on-line copy. AFIT theses and dissertations are available on the AU Research Web.

2002 Research at SAASS

Name Change—AF Strategy School

In a move designed to reflect the growing importance of space capabilities to the warfighter and the need for air and space strategists, the School of Advanced Airpower Studies at Air University has changed its name to School of Advanced Air and Space Studies (SAASS).

2002 SAASS Thesis Studies Available On-Line

By Dr. Harold R. Winton, Professor of Military History and Theory

SAASS students produce some of the finest research studies at Maxwell. Each student produces a research thesis addressing an important military issue—either of historical or current importance. These studies are so professional that about half of them will eventually appear in print either in professional journals or in the SAASS theses series or the *CADRE Papers* series produced by AU Press. For both of these series, the student research is complimented by professional artwork and editing.

SAASS theses studies from 1992 through 2002 are available on the AU Research Web in full text. Instructions for accessing this site are on the front cover of this *Bulletin*.

Faculty Highlights

During 2002, SAASS has continued its tradition of research, publication, and special presentations on a wide variety of national defense issues, centered primarily on air and space power. As in the past, the faculty has assumed the primary responsibility in this area, but a number of students have risen to the challenge as well.

Dr. Richard Andres, in his second year as a visiting professor, has been active on several fronts. In July he was invited to the Council of Foreign Relations (CFR) to make a special presentation, “Wargaming the Use of Space Weapons.” This presentation was used by the CFR to help assess the relative merits of various methods of placing weapons in space and focused on methods adversaries could use to offset US capabilities and US subsequent strategic adjustments to counter those offsets. In November he visited the University of Chicago Program on International Security Policy where he gave a talk titled, “Predicting Operations in the Gulf: The Army Plan or a New Way of War?” This discussion examined some of the salient differences between Army and Air Force approaches to strategic planning for possible hostilities with Iraq. He continued to examine this theme in a December presentation to the RAND Washington, D.C., titled “Why Fewer Ground Forces May Be Better in a Second War with Iraq.”

Dr. James Corum has immersed himself in the study of airpower in small wars, a most timely subject. He made a presentation on this subject at the MIT Security Studies Symposium and another for the DOD Office of Net

Assessment. Additionally, his article “Argentine Airpower in the Falklands War” appeared in both the Spanish and Portuguese editions of *Aerospace Power Journal*. Another article on airpower in the Chaco War was published in the Spanish edition of the same periodical. He penned the Foreword to *The German Way of War-Truppenfuehrung* edited and translated by David Zabecki and Bruce Condell. He contributed four essays to Dennis Showalter’s recently published, *History in Debate: World War I*.

Professor Dennis Drew continues his studies of airpower leadership and theory. He published an essay titled, “The Three Pillars of Professional Competence: Imperatives for Airpower Leaders” in *Air Power Leadership: Theory and Practice*, edited by Peter Gray, RAF and Group Captain and Dr. Sebastian Cox (London: Her Majesty's Stationery Office, 2002). This essay argues that professional competence in the profession of arms may be the only universal trait among successful leaders and explains the roles of training, experience, and education in developing professional competence. Additionally, he recently completed an article, “100 Years of Airpower: Three Great Lessons and One Continuing Dilemma,” which will soon appear in *Revista de la Escuela Superior de Guerra A'erea* (Superior Air War School Review, Argentine Air Force). This article presents a précis of the research and argumentation for Professor Drew’s ongoing efforts to develop a modern theory of airpower.

Dr. Everett Carl Dolman has been hard at work with two books to his credit. *Astropolitik: Classical Geopolitics in the Space Age*, was published this year by Frank Cass, Ltd. This is the first work to explore the potential for space exploitation and strategy from a decidedly realist perspective. Walter McDougall, Pulitzer Prize winning historian of the space age, has called this book the “most sophisticated work of strategy” on the subject. Also during the year he completed work on *The Warrior State: How Military Organization Determines Political Institutions*, which is now under review at Air University Press. This work argues that structural changes in the military precede and then determine political change—to include the movement to and stabilization of liberal democracy. Additionally, Dr. Dolman has assumed editorial duties for a new journal he helped launch, *Astropolitik*. Published by Frank Cass with input from both the US and the UK, this journal has the potential to become the first academically rigorous periodical devoted to the nexus of issues associated with space, national policy, and military strategy.

Colonel Thomas Ehrhard has been involved in numerous projects dealing with technology and contemporary strategy. He presented a paper titled “Seeds of Revolution: UAVs in the 1960s” to the Center for Military History Defense Acquisition History Symposium. The paper examined UAV development in the US armed forces during the 1960s and suggested contemporary policy implications. On the same theme, he presented a paper to the Massachusetts Institute of Technology’s Innovation seminar that focused on UAV development in the USAF, particularly the relatively “monarchic” role of the CSAF in relation to the other service chiefs. Additionally, he conducted an extended interview for

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NOVA (PBS) on UAV history. This interview addressed the *Lightning Bug* drone that flew over Vietnam and China, as well as more contemporary UAV issues concerning *Predator* and *Global Hawk*. It was aired on the show titled “Spies That Fly.” Colonel Ehrhard has also been directly involved in formulating contemporary strategy and doctrine, serving on a ten-man Secretary of Defense team to develop a long-range strategy for the Global War on Terrorism; briefing various audiences in the national capital on air operations conducted during Operation Enduring Freedom, in which he actively participated; making a presentation at Harvard University concerning the processes used in air campaigns to mitigate unintended and collateral damage; and participating in high-level doctrinal deliberations on the subject of strategic attack.

Dr. David Mets continues to make vital contributions to the fields of airpower history and professional military education. His chapter, “Army Roots,” in the solidly researched and exquisitely illustrated work, *Air Force*, published by the Air Force Historical Foundation, will not only gain wide circulation, it will also inform at least one generation of airmen and perhaps more of the ideas, personalities, and technological capabilities that influenced the Air Force’s birth as a separate service. His article “The Officer as a Teacher,” appeared in the Winter 2002-2003 issue of *Air and Space Power Journal*. This piece encapsulates the wisdom of several decades of Mets’s active flying experience and his extensive service as an educator in his own right. Additionally, Dr. Mets organized and chaired a panel on tactical airpower history for the Society of Military History’s (SMH) annual meeting in Madison, Wisconsin. This very well received panel featured three SAASS graduates as presenters (see below). In October, he made a presentation titled, “The History of Conventional Armament” to the National Defense Industrial Association at Eglin AFB.

Dr. Harold R. Winton continues his study of American corps command in the Battle of the Bulge with two background projects. The first was an article in *Assembly* titled, “The Right Way, the Wrong Way, the Ridgway: Matthew B. Ridgway as Division Commander.” The second was a paper given at the annual meeting of the Society of Military History, “The Education of Two Generals: Leonard T. Gerow and John Millikin.” Taken together, these two pieces trace the military professional development of three key players in the Bulge campaign, whose roles have not yet been fully examined.

SAASS graduates have also continued the school’s tradition of critical thinking and publication on air and space power issues.

Perhaps the highlight was the tactical airpower panel at the SMH meeting, chaired by Dr. Mets. The leadoff man was Lt Col Robert Givens, SAASS X, who deftly presented a paper, “Turning the Vertical Flank: Airpower as Maneuver Force in the Theater Campaign.” Colonel Givens argued that the characteristics of maneuver forces could be historically derived by studying the evolution of war from the ancient Greeks to the American Civil War and that major airpower campaigns of the 20th Century demonstrated that airpower

possessed each of these characteristics. Then, Lt Col Todd Harmer, SAASS IX, captivated the audience with a riveting, computer-graphic-supported presentation outlining the reconstruction of an air-to-air engagement that occurred during the Vietnam War. This research project, undertaken at the direction of the CSAF, demonstrated conclusively that Trigger 4 had been shot down by enemy action and not by friendly fire, as a number of individuals had suspected. At the end of the presentation, Colonel Harmer stated, “without the research tools I learned at SAASS, I could have never completed this project.” Lt Col Ronald Banks, SAASS X, was scheduled to present a paper, “The USAF and Tactical Airpower in the Age of Massive Retaliation”; but operational requirements prevented him from doing so. Dr. Mets, who had worked closely with him on the project, gave the audience an artful summary of the paper’s major points.

Additionally, two SAASS master’s theses were published during 2002 by Air University Press in its highly acclaimed series of *CADRE Papers*. The first was by Lt Col Givens, under the same title as the SMH paper mentioned above, published as *CADRE Paper 13*. Givens also received the Air Force Historical Association’s award for the best thesis of his graduating class and an accompanying check for \$500.00. The next in the series was written by Lt Col Ellwood P. “Skip” Hinman, IV, SAASS X, *The Politics of Coercion: Toward a Theory of Coercive Airpower in Post-Cold War Conflict*. In this tightly argued and thoroughly researched paper, Colonel Hinman argues that none of the extant theories of coercion is completely adequate for the new realities of the post-Cold War era and he proposes a new “hybrid approach” to confront the changing times. Taken together, these two papers provide solid research and argumentation for cutting-edge airpower issues and show a productive blend of historical and political science approaches to illuminate these issues.

Lt Col Stephen Whiting, SAASS XI, demonstrated the utility of another mode of thinking in print, the review essay. His offering, “Ideas and Persecution: The Easy Way to Explain Decision Making,” was published in the Spring 2002 issue of the *Naval War College Review*. Colonel Whiting uses two books—Grant Hammond’s *The Mind of War: John Boyd and American Security* and James Tate’s *The Army and its Air Corps: Army Policy toward Aviation, 1919-1941*—to explore the complex relationship between service culture and military innovation. The result is a fascinating, thought-provoking analysis of the issue itself as well as an objective, insightful assessment of the two books. Just what one wants from a review essay!

Taken all together, the research and publication accomplishments of the SAASS faculty and students give one a certain degree of confidence that the School is accomplishing its twin missions of educating future strategists and adding to the body of air and space power knowledge in the wider context of security studies as a whole. They also indicate that the ideal of creating warrior-scholars to provide for the common defense is attainable if one is willing to invest the effort and resources required to do so.

2002 Research at AWC

AWC Faculty Research Spotlight

By Dr. David S. Sorenson, Associate Dean for Academic Programs

Dr. Stephen Burgess was awarded two sets of grants from USAF CPC and INSS USAFA in 2002 to conduct research on India's emerging security doctrine and defense capabilities as well as on prospects for an Indian missile defense system and arms control agreements between India and Pakistan. Research on India's emerging security doctrine and defense capabilities was presented as papers at the 2002 American Political Science Association convention and at a 2002 conference of the International Studies Association-South. He plans to travel to India and Pakistan in May 2003 to continue the research. Dr. Burgess continues to conduct research on *South Africa and Weapons of Mass Destruction*, with Helen Purkitt, which Indiana University Press will publish in October 2003. Drs. Burgess and Purkitt also published an article of correspondence regarding the South African Nuclear Weapons Program in *International Security* in Summer 2002. Dr. Burgess continues to conduct research on African politics, economics, and security. His chapter on economic reform and democratization in East Africa is part of a book manuscript that is under consideration by Indiana University Press for publication, and he presented a paper comparing the security performance of African sub-regional organizations at the 2002 International Studies association convention.

Dr. Timothy Castle wrote "Wired for War: From Ban Karai to Tora Bora" paper prepared for Society for Military History Annual Conference, Madison, WI, 5 April 2002. This paper traces the development, introduction, and operational use of mechanical sensors during the early years of the Vietnam War. The technological descendants of these Vietnam-era sensors have now been used by US warfighters to successfully locate Taliban and Al Qaeda forces in the mountains of Tora Bora, Afghanistan.

Dr. Mark J. Conversino is currently working on an article-length piece examining a trend advocating ground power—the Army, in particular—in defense-related literature. Part of this trend is in direct response to a perception that the Army would suffer the greatest cuts under DOD's technology-driven "transformation" efforts.

Ms. Shannon Crumpton's abstract titled, "Validity of the Polar M52tm Heart Rate Monitor In Predicting VO_{2max} " will be presented at the American College of Sports Medicine annual meeting, 28-31 May 2003, in San Francisco and will appear in a May supplement of *Medicine and Science in Sports & Exercise*. The second abstract, Cross Validation of the Air Force Cycle Ergometer Test, will tentatively be presented at the DOD Health Promotion Conference, 8-16 May 2003, in San Diego, CA. This was an extension of her thesis project and will be submitted for publication.

Colonel Karen W. Currie, USAF, is co-author (with Lt Col Steve Brown, USAF, Defense Acquisition University) of Agile Logistician Education, Reading and Training (ALERT)

Plan," in preparation for submission to the *Air Force Journal of Logistics*.

Dr. Grant T. Hammond presented his papers on "The Globalization of War and Conflict" to Society for Military History Annual Conference, Madison, WI, 5 April 2002, and "From Air Power to Err Power: John Boyd and the Opponent's Situational Awareness" to the RAF Airpower Leadership and Theory Conference, London, UK, 15 May 2002. The paper will be published as part of the proceedings.

Dr. Christopher Hemmer's latest publications include "Why is There No NATO in Asia? Collective Identity, Regionalism, and the Origins of Multilateralism" (co-written with Peter Katzenstein), *International Organization* 56, 3 (Summer 2002) and "Syria under Bashar al-Asad: Clinging to His Roots?" in Barry Schneider, ed., *Know Thy Enemy* (forthcoming Air University Press 2003). His current research centers on the question of why people learn the lessons they do from war.

Dr. Dan Henk is engaged in research on three separate projects. The first examines differing academic approaches to senior leadership with the ultimate intention of a publication. This research is designed to answer the general questions: "What do we really know about senior leadership, and how do we know it?" Initial product will be a paper presented at the annual convention of the International Society of Political Psychology in July 2003, followed by an article for submission to a professional journal. The second line of research examines the pathologies of strategic leadership dysfunction, with the objective of identifying typical circumstances of senior leadership failure. A primary purpose of this research is to produce an article for acceptance by a refereed journal that can be used as a reading in the leadership and ethics core course. The third project is a study of the competencies of senior (public sector/military) leadership in cross-cultural comparative. The intention is to produce a monograph manuscript by about December 2004.

Dr. Daniel Hughes is completing his book-length project on: *The German Way of War 1871-1918*. The study examines the problems of integrating national strategy, military strategy, doctrine and other related factors into a coherent intuitional approach to preparing for and conducting war. Related subjects include: coalition warfare, technological, organizational and doctrinal transformations during war, and civil-military relations.

Dr. Thomas Hughes' article "The Cult of the Quick" won the Ira C Eaker Essay award for the best article in *Aerospace Power Journal* for the 2001 academic year. He continues work as an editorial consultant to *Encyclopedia Britannica*, to which he has contributed a signature chapter on World War II. He also continues work on a biography of Admiral William Halsey.

Dr. Judith Gentleman presented paper on "Andean Regional Security" at the North-South Center-University of Miami/US Army War College sponsored conference, "Colombia's Ambiguous War in Global and Regional Context: Insurgency, Transnational Crime and Terror." She served as a consultant

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to USSOUTHCOM classified study and authored classified study for same. She will present a paper entitled: "Foreign Policy in Latin America in the Age of Globalization." XXIV International Congress of the Latin American Studies Association, Dallas, Texas, March 27-29, 2003. She is engaged in ongoing research for a manuscript "Mexico's Evolving National Security Strategy."

Colonel Kenneth P. Knapp, USAF, wrote a white paper as sub-panel chairman of the Industrial Base Panel of the Air Armament Summit V, March 2002 reviewing existing Munitions Industrial Base (MIB) studies to collect and assess common findings or recommendations. This paper will be included in the proceedings of the Summit and published along with their CD. Colonel Knapp and Colonel Karen Currie plan on taking this research another step and then submitting an article for journal publication.

Dr. David Lai presented a paper at the International Studies Association meetings in New Orleans, March 2002, "The Future of the China-Taiwan Question." He also gave a talk at the Air Force Academy about "The Cultural Revolution of China, 1966-1976," 4 October 2002 and delivered a keynote speech at the conference of "Asia in the 21st Century: Issues and Insights" co-hosted by the Air Force Academy and the Colorado Council on International Organization, Denver, CO, 5 October 2002. Dr. Lai completed a chapter for the forthcoming book, *The PLA and Chinese Society in Transition* (National Defense University Press, 2002), titled "Mirror, Mirror on the Wall, How Should the US and China Learn to Live with Each Other after All?" He has also completed a number of articles on the China-Taiwan question: "Taiwan Referendum: No Easy Exit," "The China-Taiwan Question: A Flashpoint," and "US-China Relations: A Strategic Outlook." In addition, Dr. Lai co-authored several articles with former and current AWC students. These are "From Islands to Networks: Deepening the Multilateral Security Process, a US Strategy for the Asia-Pacific Region," "Football vs. Soccer: American Warfare in an Era of Unconventional Threats," "Taiwan's Offshore Engagement Strategy," and "Learning from the Stones: an Ancient Chinese Strategic Concept."

Colonel John Lanicci, USAF, published *Weather Operations in the Transformation Era*, as a *Maxwell Paper*. The paper takes a compelling look at future weather operations. His hypothesis is that a truly consolidated battlespace picture totally integrates both natural and man-made elements of the environment, consistent with USAF transformation efforts. Colonel Lanicci points out that the way ahead is easier said than done, and offers several cogent reasons why the weather operations portion of Information In Warfare has not caught up with current USAF doctrine, such as our historical tendency to look at weather as a somewhat isolated, tactical problem.

Dr. James Mowbray is working on two books, the *Seventh Air Force in WWII* and an *Atlas of the Pacific Air War* with former AWC faculty member Dr. Armin Ludwig.

Dr. Michael Payne is currently completing two chapter-length essays for books scheduled for publication January 2004. One is a history of philosophy essay on 20th century trends in philosophy and culture. The other is a work assessing the implications of postmodernism for rational argument. He is also completing work on an article titled: *Postmodern Warfare/Postmodern Military: Do We Need a New Morality?* (to be submitted sometime this summer). Dr. Payne is also doing research for a book on *Just War Theory and its Applicability in the 21st Century*. Tentatively titled: "Just War Theory in the 21st Century: Will It Stretch or Must it Break?"

Dr. Jeffrey Record authored a book chapter, "How America's Own Military Performance Aided and Abetted the North's Victory," in Marc Jason Gilbert, ed., *Why the North Won the Vietnam War* (New York: Palgrave, 2002), an article titled "The Bush Doctrine and War with Iraq," *Parameters* (Spring 2003), book reviews on "Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon," review of James R. Locher III's book of the same name, *Air and Space Power Journal* (Fall 2002) and "War Over Kosovo: Politics and Strategy in a Global Age," review of Andrew J. Bacevich and Eliot A. Cohen's book of the same name, *Parameters* (August 2002), op-ed pieces, "The Wages of Program Instability," *Defense Week*, 23 September 2002, and "The F-22 and the Bush Doctrine," *Defense Week*, 19 August 2002. He also presented a paper, "American Responses to the Al-Aqsa Intifada," at the annual conference of the ISA/Southern Region, International Security Studies Section, Richmond, VA, October 18-20. He is engaged on preliminary research for a book on using force.

Dr. Matthew Rhodes' publications include "Whose Trojan Horses?," *International Journal* (Autumn 2002), pp. 631-637, and "Visegrad Turns Ten," *Carl Beck Paper in Russian and East European Studies* (forthcoming). He is working on "Central Europe After the Year of Decision," a faculty team project on nation-building, and a conference presentation: "Central Europe Between the US and EU: Balance, Bandwagon, or Bridge?" International Studies Association, Budapest (June 2003).

Colonel Stephen R. Schwalbe, USAF is starting research sponsored by the Air Force Center for Counterproliferation on Soviet considerations of a preemptive attack against the US during the 1980s.

Dr. David S. Sorenson completed a co-edited book (with Dr. Pia Wood at Wake Forest University) for Frank Cass Publications titled *National Politics of Peacekeeping*, and a manuscript, *The Politics of the Modern Middle East* for Allyn Bacon-Longman Books. He presented a paper, "Egypt Reacts to the Second Intifada," to the International Security Studies Section/ISA South Joint Conference, Richmond, VA, October 2002. He is working on a co-authored paper, "Reacting to American Unilateralism: The Europeans and George W. Bush," for the International Studies Association Conference in Budapest, Hungary, June 2003.

2002 Research at AWC

Air Force sponsored Air Armament Summit V

By Knapp Kenneth, Colonel AWC/DFW

In preparation for the Air Force sponsored Air Armament Summit V, March 2003, a review of existing Munitions Industrial Base (MIB) studies was accomplished to collect and assess common findings or recommendations. As a result, it was determined that (1) there are a series of conclusions about the MIB shared across studies, and therefore (2) no further studies are required to understand that there is concern about the munitions sector of the defense industrial base. The findings and recommendations already documented highlight the need for action by decision makers in the Air Armament community. Also, it could be assessed that (3) the Air Armament community would benefit by having a dedicated MIB information center that (a) continually gathered and exchanged available data and information from the existing research sources, and (b) channeled future study efforts towards areas of most value thus eliminating duplication in on-going MIB study efforts and conserving valuable resources. *Note: The paper will be published with the summit proceedings.*

The Maxwell Papers Celebrate Their Silver Edition

By Dr. Lawrence Grinter, Editor, Maxwell Papers

AWC is pleased to announce five new *Maxwell Papers* which include studies of Iran's weapons of mass destruction (WMD), lessons from Operation Allied Force, a study of air mobility operations, and two forthcoming items on USAF weather operations and the F/A-22. The *Maxwell Paper* series began in 1996 with the AU Commander signing the foreword to the first paper. Gen Ronald R. Fogleman, former Air Force chief of staff, signed the foreword to *Maxwell Paper* no. 6.

Every candidate paper goes through a rigorous review and selection process. Selected papers average 7,500 to 8,000 words and are documented in conformity with the *Air University Style Guide*. The AU Press handles technical editing and layout for each selected paper.

The *Maxwell Paper* distribution list contains over 395 addresses and is growing. Senior USAF leaders, DOD agencies, professional military education (PME) institutions, Congress, other US government agencies, defense contractors, and 41 foreign air forces and institutions presently receive the papers via the distribution list. The *Maxwell Papers* are also available electronically in the "Special Collections" section of the AU Research Web site at <https://research.au.af.mil/>.

Publication as a *Maxwell Paper* is an option primarily for AWC students and faculty, but it is open to all interested authors. To be considered for publication, an author should submit two copies of the manuscript to: Air War College, Attn: Lawrence E. Grinter, PhD, 325 Chennault Circle, Maxwell AFB, AL 36112-6427, phone DSN 493-7074 or commercial (334) 953-7074.

Recent Maxwell Papers available on-line:

- [*Iran's Strategic Culture and Weapons of Mass Destruction*](#), Anthony C. Cain, no. 26.
- [*Operation Allied Force: Golden Nuggets for Future Campaigns*](#), Michael W. Lamb, Sr., no. 27.
- [*Leading Air Mobility Operations in Complex Humanitarian Emergencies*](#), Eileen M. Isola, no. 28.

Forthcoming

- *Weather Operations in the Transformation Era*, John M. Lanicci, no. 29.
- *The Air Superiority Fighter and Defense Transformation*, Devin L. Cate, no. 30.

USAF Counterproliferation Center

By Dr. Barry R. Schneider, Director

Now entering its fifth year of existence, the USAF CPC has engaged in significant research and publication efforts to make officers in the USAF aware of the diverse worldwide nuclear, biological, and chemical weapons threats to the United States and its allies and of the means for reducing and coping with those threats. As a result of the recent terrorist attacks within the United States, the center is giving special attention to the critical matter of homeland security as well.

Since its inception, the CPC has provided funding for research projects by faculty and student officers at AU. Most importantly, our growing list of books and studies have contributed new insights valuable to the USAF.

Counterproliferation-Sponsored Books and Publications

- *Future War and Counterproliferation: Military Responses to NBC Proliferation Threats*, Barry R. Schneider, (Westport, Conn.: Praeger, 1999).
- *The Dragon Awakes: China's Military Modernization, Trends and Implications*, Lawrence E. Grinter, editor, (CPC, 1999).
- *Middle East Security Issues: In the Shadow of Weapons of Mass Destruction Proliferation*, Barry R. Schneider, editor, (AU Press, 1999).
- *The Anthrax Terror: DOD's Number-One Biological Threat*, Jim A. Davis and Anna Johnson-Winegar, *Aerospace Power Journal*, Winter 2000, 15-29.
- *The Rollback of South Africa's Chemical and Biological Warfare Program*, Stephen F. Burgess and Dr. Helen E. Purkitt (CPC, 2001).
- *Not with Impunity: Assessing U.S. Policy for Retaliating to a Chemical and Biological Attack*, Harry W. Conley in *Essays 2001: Chairman of the Joint Chiefs of Staff Strategy Essay Competition* (Washington, D.C.: National Defense University Press, 2001), 23-29.
- *The Gathering*, Jim A. Davis and Barry R. Schneider, editors.

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Biological Warfare Storm (CPC, April 2002)

- *Know Thy Enemy: Profiles of Adversary Leaders and Their Strategic Cultures*, Barry R. Schneider and Jerrold M. Post, editors (Nov 2002).

CPC Papers, Future Warfare Series (most available on-line):

- *The Military Role in Countering Terrorist Use of Weapons of Mass Destruction*, Lansing E. Dickinson, no. 1.
- *The Third Temple's Holy of Holies: Israel's Nuclear Weapons*, Warner D. Farr, no. 2.
- *A Chemical and Biological Warfare Threat: USAF Water Systems at Risk*, Donald C. Hickman, no. 3.
- *Chemical-Biological Attack: Achilles Heel of the Expeditionary Force?*, Byron C. Hepburn, no. 4.
- *The Security Implications of Micro-disarmament*, Christopher D. Carr, no. 5.
- *Assessment of the Emerging Biocruise Threat*, Rex R. Kiziah, no. 6.
- *Biocruise—A Contemporary Threat*, Michael E. Dickey, no. 7.
- *Deterring Libya—The Strategic Culture of Muammar Qaddafi*, Craig R. Black, no. 8.
- *Smallpox: A Primer*, Brenda J. McEleney, no. 9.
- *The Anthrax Vaccine Debate: A Medical Review for Commanders*, Richard A. Hersack, no. 10.
- *Homeland Defense: Are We There Yet?* Judith Ward, no. 11.
- *Surveillance and Detection: A Public Health Response to Bioterrorism*, Barbara F. Bullock, no. 12.
- *Argroterrorism and Foot-and-Mouth Disease: Is the United States Prepared*, Michael E. Peterson, no. 13.
- *Next Generation Bioweapons: The Technology of Genetic Engineering Applied to Biowarfare and Bioterrorism*, Michael J. Ainscough, no. 14.
- *"Saddam is Iraq: Iraq is Saddam,"* Jerrold M. Post, MD and Amatzia Baram, PhD, no. 17.
- *Killing in the Name of God: Osama bin Laden and Al Qaeda*, Jerrold M. Post, M.D., no. 18.
- *Chinese Military Scenarios Against Taiwan: Premises, Options, Implications*, Lawrence E. Grinter, no. 19.

Classified CPC Studies

Edited by Dr. Barry R. Schneider

(Titles are unclassified.)

- (U) Kerry Taylor, "Israeli Homeland Defense: Lessons from the Passive Defense Program," AWC thesis, 1999.
- (U) B. David Campbell, "Tracking and Targeting Deeply Buried Hard Targets," AWC thesis, 1999.
- (U) Christopher Morris, "The Iranian Shahhab-3 IRBM Program: Analysis of a Threat," AWC thesis, 1999.

There are numerous other CPC studies and three forthcoming books on other counterproliferation topics.

The CPC staff also has created the CPC Internet Web page at (www.au.af.mil/au/awc/awcgate/awc-cpc.htm). Judging by the number of hits recorded, this Web site is the best US government one-stop shopping spot on the Internet for counterproliferation information. The CPC has also provided AU researchers with a specialized database from the Monterey Institute of International Studies, Monterey, California. In the past three years, the CPC staff and associates at AU have directed over 120 AU student research studies on weapons of mass destruction (WMD) threats and counterproliferation responses.

In addition to a busy research and publication effort, the staff and associates of the CPC also teach courses at AWC, at ACSC, in the On-Scene Commander's Course, and in the Aerospace Basic Course. The CPC also sponsors numerous field studies for students at AWC, runs conferences and workshops, sponsors a series of speakers to AU, provides its books and readings to the 130+ universities and colleges that offer Air Force Reserve Officer Training Corps (AFROTC) classes to 13,500 students each year, and runs an unclassified closed circuit TV series (Channel 35) on counterproliferation topics for the 17,000 officers who attend AU each year. Also, to improve the access to timely information, the CPC *Outreach Journal* is e-mailed to hundreds of USAF and DOD officers and employees each week with copies of relevant new articles and information about upcoming conferences and classes related to NBC issues. The CPC also edits and comments on USAF and DOD draft documents relating to new CPC policy and doctrine. Finally, the CPC is leading a new effort, called the Adversaries Project, focused on developing expertise within the federal government to analyze rogue leaders and their strategic decision-making process.

The work of the CPC is sponsored primarily by Headquarters USAF/XONP and the Counterproliferation Division of the Defense Threat Reduction Agency (DTRA). A number of speakers to AWC classes and CPC conferences have also been supported by the Joint Service Integration Board (JSIG). The annual CPC conference has been supported financially by these three organizations and was also endorsed by the Office of the Secretary of Defense (OSD) and the Air University Foundation.

The Center for Strategy and Technology (CSAT)

By Lieutenant Colonel John Geis, Acting Director

CSAT continued its leadership role in Air Force and DOD in researching the strategic implications of technological choices. In its seventh year of operation, the center supervised the completion of 28 student papers from AWC, SAAS, and ACSC as well as continuing to fund and support AU faculty research.

The Center continues its efforts to publish significant works exploring the nexus between strategy and emerging technologies. Sixteen AWC students produced CSAT papers

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in the past year, seven of which won significant awards from AU and national military organizations. Six new monographs have been published in the past 12 months, which span topics ranging from doctrinal issues surrounding precision engagement at the strategic level of warfare to space superiority to unmanned vehicles in the air and under the sea. Peer review and editing is underway on 12 more monographs to be published next year.

The Center continues to expand and has filled its facilities in building 1450. Two additional senior positions were added, including an Air Force Research Laboratory (AFRL) Chair, and a Chief Scientist position. The Center's staff has tripled in the past two years. Key Center staff includes: the Director, Dr. Grant Hammond; Deputy Director, Mr. Ted Hailes; Director of Operations, Lt Col John Geis; AFRL Chair, Dr. Steve Suddarth; and Chief Scientist, Dr. Courtney Holmberg.

This staff has performed services for a variety of agencies within DOD as well as for our military allies around the world. The Center continued to lecture and teach courses at the senior service schools for the Air Forces of the Netherlands, Belgium, and the United Kingdom. The Center staff has recently completed a DARPA-funded study on Satellite Defense, which will be used to focus future DOD space technology research. The Center maintains a relationship with the Commander, US Special Operations Command, and the USSOCOM Future Concepts Branch, in which the Center assists with the future planning and wargaming exercises for all U.S. Special Forces. The Center also provided technical assistance to the Air Force Scientific Advisory Board during the 2002 Summer Study on Predictive Battlespace Awareness, where Center members assisted in drafting the final report.

The Center maintains close working relationships with a variety of other research and future leaning organizations to include several directorates of the Air Force Research Laboratories, DARPA, the Air Force Strategic Planning Directorate (AF/XPX), Air Force Space Command, and Air Force Special Operations Command. The Center continues to seek opportunities to assist DOD organizations with issues surrounding the strategic implications of technological choices.

In addition to its role in publishing and consulting, CSAT continues to teach courses at the colleges within AU. Each year, the staff teaches an elective on strategy and technology at AWC, and offers an elective at ACSC with a similar focus. In both these courses, the students are exposed to future technologies and have the opportunity to visit some of the Air Force's most advanced research facilities. In this next

academic year, additional elective courses will be offered which will give the AWC students an opportunity to learn more about research currently under way at the AFRL facilities around the world, directed energy technologies, and the future prospects for unmanned vehicles.

New CSAT Occasional Papers available on-line:

- *Precision Engagement at the Strategic Level of War: Guiding Promise or Wishful Thinking?*, Timothy J. Sakulich, December 2001, no. 25.
- *Infrared Systems for Tactical Aviation: An Evolution in Military Affairs?*, George B. Hept, January 2002, no. 26.
- *Unmanned Undersea Vehicles and Guided Missile Submarines: Technological and Operational Synergies*, Edward A. Johnson, Jr., February 2002, no. 27.
- *Attack Operations for Missile Defense*, Merrick E. Krause, May 2002, no. 28.
- *Death by a Thousand Cuts: Micro-Air Vehicles in the Service of Air Force Missions*, Arthur F. Huber II, June 2002, no. 29.
- *Sustained Space Superiority: A National Strategy for the United States*, Larry J. Schaefer, August 2002, no. 30.

In addition to the publications listed above, there are AWC student research studies included in the summary at the end of this Bulletin.

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ACSC Student Research

By Major Marcia Watkins, PhD, Director of Research

The ACSC 2002 graduating class included 583 students. All students produce research papers on a wide variety of topics as part of either the Independent Research or Electives programs. While both require demanding research pieces, students enrolled in the Electives program benefit from the unique expertise of our elective course instructors and thus are allowed a more guided study of their chosen topic. One hundred and thirty one students completed the Independent Research Program and 452 completed an elective course.

This year, ACSC began the research program with the ACSC Research and Elective Day (AREDY). AREDY provided an opportunity for a number of DOD agencies to discuss their proposed research topics one-on-one with students and gave students an opportunity to meet with potential faculty research advisors.

In annual year 2003, each ACSC student will write a research paper, whether in their elective course or as part of independent research. Regardless of which route students choose, each ACSC student has been charged to:

...document, critically analyze, and solve air and space power problems of the past ten years...and into the future.

ACSC Faculty Highlights

By Dr. William Dean, Assistant Professor of Comparative Military Studies, and Major Marcia Watkins, PhD

In addition to the student research, the ACSC faculty was extremely busy this year. Following is a listing of ACSC faculty academic accomplishments:

Lt Col Paul Berg presented a paper entitled "Control, Coordinate, or Deconflict? Senior Air Force Leader's Views of Rolling Thunder Joint Air Operations 1965-68" for the Society of Military History at Madison Wisconsin in April 2002. Subsequently, this paper was turned into an article for the autumn edition of the *RAF Air Power Review*. Lt Col Berg published a second article entitled "Boeing RC-135 Series" in the October edition of the *Defence Recognition Journal*.

Lt Col Phillip Chansler co-authored an article titled "Predictors of Collectively-Led Work Group Cohesion: An Empirical Study of "Natural Work Groups" at a Harley-Davidson Motor Company Plant." which was published in the February 2003 issue of *Small Group Research*.

Lt Col Chuck Costanzo delivered a presentation entitled "CBRN Attacks: Domestic Dimensions" for the ACSC Faculty Forum in September 2002.

Dr. William Dean delivered two paper/presentations in 2002. "Disasters in French Colonial Operations: The Indochina and Madagascar Cases" was delivered at the Society of Military History in Madison Wisconsin in April; and "British Military Operations in Afghanistan in the 19th Century" at

Norwich Univ., Northfield VT in May. Dr. Dean also wrote several book reviews for various publications. For *Choice* magazine he reviewed Joseph Persico's *FDR's Secret War* and Arthur Dommen's *The Indochinese Experience of the French and the Americans*. Further Dean reviewed *Liaison 1914* for the fall issue of the *Air and Space Power Journal*. Dr. Dean received a grant from the AU Foundation to do summer research in Paris at the French War Archives and he is preparing a book on the Rif Rebellion in Morocco in 1925.

Dr. Robert DiPrizio wrote a book on Human Rights and International Relations entitled *Armed Humanitarians: US Interventions from Northern Iraq to Kosovo* published by Johns Hopkins Univ. Press.

Lt Col Mike Fiedler wrote a book review of Barbara Walter's *Committing to Peace: The Successful Settlement of Civil Wars* for *Choice* magazine.

Dr. Bert Frandsen's book, *Hat in the Ring: The Birth of American Air Power in the Great War*, will be published by Smithsonian Institution Press in August 2003. He made a presentation at the 29th Symposium of the International Committee for the History of Technology (ICOHTEC) in Granada, Spain on the "British and French Contributions to the Birth of American Combat Aviation: Technology Transfer and the Clash of Cultures in the First Pursuit Group during World War I." He also authored the following articles in Walter J. Boyne's, *Air Warfare: An International Encyclopedia*: "William 'Billy' Mitchell," "St. Mihiel," and "United States Air Service."

Dr. Kevin Holzimmer presented a paper entitled "It Is Amazing that It Worked at All: Joint U.S. Operations in the Southwest Pacific in World War II" at the Society for Military History Conference in Madison Wisconsin in April 2002.

Lt Col Mark Jordan co-authored "Character Assessment: An Examination of Leadership Levels" which was published in the *Journal of Business and Psychology* and "An Analysis of the Department of Navy Senior Executive Service Selection Process" which will appear in 2003 in *Public Personnel Management*.

Dr. Paul Kan presented a paper entitled "Globalization and the Just War Tradition" in July 2002 as part of the War and Virtual War Conference at Oxford Univ. in the U.K. Kan also wrote a book review on *Chinese Military Aviation* for the Fall edition of *The Air and Space Power Journal*.

Dr. Alexander Lassner delivered a presentation on "The Coming of World War II: The Historiographical Debates" for the ACSC Faculty Forum in October 2002. He co-edited the 2002-3 volume of *Contemporary Austrian Studies* wherein he also wrote an article on the foreign policy of the Austrian Government from 1934-1938. He also wrote two book reviews (to be published in 2003) of Gabriele Volsansky, *Pakt auf Zeit. Das Deutsch-Österreichische Juli-Abkommen 1936* (Wien: Böhlau Verlag, 2001) and Lord Russell of Liverpool, *A Short History of Nazi War Crimes* (Greenhill Books, 2002); Lord Russell of Liverpool, *A Short History of Japanese War Crimes* (Greenhill Books, 2002).

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Lt Col Sharon Latour co-authored an article with Lt Gen Bradley C. Hosmer entitled “Emotional Intelligence: Implications for All United States Air Force Leaders” that was published in the Winter 2002 edition of the *Air and Space Power Journal*

Dr. Donald MacCuish delivered two presentations and had one article published. A paper he co-authored on “The Credible Grading Machine: Automated Essay Scoring in the DOD” was presented at the Interservice/Industry Training, Simulation and Education Conference (IITSEC), Orlando, FL, November 2002. In August 2002, he presented his paper on “Approaches to Instructional Development” at the DOD Civilian Education and Professional Development Conference at Ft. Belvoir, VA. His article, “The Taliban in America—Corrupting the Tools of Education and Training, Education at a Distance,” was published in the September 2002 issue of the *Journal of the United States Distance Learning Association*. Dr. MacCuish also evaluated a book entitled *Evaluation for Continuing Education: A Guide to Success*, for the Teachers College Record (TCR), Columbia University. The book review was published on the TCR Web site and was just released in *Record Books* published by TCR.

Dr. Rich Muller wrote three book reviews for the *Air and Space Power Journal* which included the following works: Reina Pennington’s *Wings, Women and War*; Bergstrom’s and Mikhlov’s *Black Cross, Red Star: Vol II*; and Richard Harrison’s *The Russian Way of War: The Operational Art, 1904-1940*. In addition, Dr. Muller published a review of Adam Claasen’s *Hitler’s Northern War* for the *International History Review*. He also delivered a presentation entitled “Teaching Military History in the United States: A Roundtable Discussion” for the International Commission of Military History in August 2002 in Norfolk, VA.

Lt Col Randy Mullis completed his doctoral dissertation entitled “Soldiers Were Never on More Disagreeable Service: Peace Operations in Territorial Kansas and the Trans-Missouri west, 1854-56” for the University of Kansas. In November 2002, he delivered a presentation entitled “MOOTW in Historical Perspective: The US Army and Indian Pacification” for the ACSC Faculty Forum. He also had a book review published in the March-April 2002 issue of *Military Review*. The review was on George Rollie Adams’s, General William S. Harney: Prince of Dragoons.

Dr. Douglas Peifer’s book, *The Three German Navies: Dissolution, Transition, and New Beginning*, was published by Univ. Press of Florida. Dr. Peifer wrote entries in ABC-Clío’s *Encyclopedia of Naval History*. Additionally, Peifer’s reviews of *Morality and Contemporary Warfare* and *Soldier as Citizen. Former Wehrmacht Officers in the Federal Republic of Germany* were published in the October and July issues of *The Journal of Military History*. Dr. Peifer also served as an

outside reader for two manuscripts for *The Journal of Military History*. He gave an ACSC faculty forum presentation on “German Naval Remilitarization: The Shift from Victor/Vanquished to Comrade in Arms, 1948-56” in March 2002.

Dr. Matthew Schwonek delivered a paper entitled “Kazimierz Sosnkowski as Commander in Chief: Polish Politics and Strategy, 1943-1944,” that was presented at the American Association for the Advancement of Slavic Studies, November 2002, Pittsburg, PA. This is part of a larger manuscript that is being prepared as a book.

Dr. Lewis Ware was made a Chevalier of the French National Order of Merit. According to the rule R.128 of the Code of the Legion of Honour, “foreigners who distinguished themselves toward France can be nominated for the National Order of Merit.” The President of the French Republic announces nominations and promotions and Chevalier is the highest rank possible in the National Order of Merit.



Dr. Michael Weaver gave two presentations in 2002. In September, Dr. Weaver gave a presentation entitled “War and Society” to the ACSC faculty forum and later gave a lecture on the history of the Militia and National Guard from 1607-1945 to the Guard and Reserve Elective.

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Air Force Fellows: A Thumbnail Sketch Description of the Research

By Lt Col David Farringer, Chief, Air Force Fellows

The AY 03 class of Air Force Fellows (AFF) is busy researching and working on their graduation theses. The topics for this year's class cover a wide array of military subjects—indicating there certainly are diverse interests among the AFF. This article is designed to give the reader an insight into the topics and a thumbnail sketch description of the research.

Homeland Defense: At Risk as a Result of Civil Support.

The research effort is an attempt by the author to examine the broad area of support to civil authorities and the potential for significant demand on DOD resources. The research is in three parts: 1) a review of information on previous terrorist attacks in the US, extracting information regarding DOD support to each event; 2) a look at DOD's role of homeland defense and the associated resources required to perform this role; and 3) an analysis of the potential areas where homeland defense and civil support compete for the same resources—concluding with some recommendations on how to resolve them.

Why Can't We Deter Non-state Actors from Employing Weapons of Mass Destruction on the US Homeland.

This research project is an effort to evaluate the effectiveness of having a strategy that is aimed at deterring non-state groups from using weapons of mass destruction (WMD). It examines the costs to implement a deterrence based approach—comparing the approach to defending the entire homeland or pre-empting potential US non-state enemies. The research explores the contributions deterrent and dissuasive strategies can have on relevant non-state actors who may have the capability and/or intent to launch a WMD attack on America. A comprehensive four-step model comprised of: 1) screening; 2) analyzing; 3) strategizing and; 4) monitoring is developed to elicit the policymaker's deter, defend, and defeat allocation decision. The model is tested against a real-world terrorist organization posing a WMD threat to the US homeland and significant conclusions regarding deterrence and dissuasion are drawn.

US Foreign Policy Toward Cuba in an Evolving Post Castro-Era.

This paper analyzes the current US foreign policy toward Cuba with regard to the stated objectives contained in the National Strategy of the United States. The author surveys the historical/political context of the present impasse, policy studies prepared by government agencies and think-tanks, and joint doctrine for the peacetime use of military forces with the overall objective of determining what foreign policy strategy for Cuba best serves the US national security interests in the coming post-Castro era. The author finds the present foreign policy toward Cuba is counter to national strategy interests as it can contribute to implosion of the Cuban state, rather than a controlled and stable transition

to a democratic society. The author concludes that a significant shift in policy, constituting a “pre-emptive” approach is necessary to achieve the US objective of encouraging development of democratic rule in Cuba in the most rapid, yet, stable manner. The author proposes an immediate, complete, and non-preconditioned normalization of relations with the Castro regime.

Major Theater (2MTW) to Capabilities Based Strategy: Assessing the Impact on the Future Total Air Force Mix.

Surging costs for next-generation weaponry, prolonged Air Force Reserve Component (RC) overseas contingency participation/activation, and a diminished Active Component (AC) are forcing national leaders to search for a formula to predict the most effective AC/RC force mix structure. This research examines the guidance currently in place to make these determinations and concludes by suggesting improvements to make the guidance more effective for the future.

Military Transformation in the US Department of Defense: Background and Issues for Congress.

This paper intends to provide Congress with background material concerning the DOD's plans for military transformation. It provides a primer on the department's transformation, including a comprehensive review of administration strategy, policy and process review, and DOD organizational entities acting as catalysts for change. The paper discusses the rationale for transformation and provides insight into the various definitions for transformation within the defense community. It broadly examines current individual military service transformation efforts and their future roadmaps in three general areas: 1) Organizational innovation, war-fighting concepts, and revolutionary-hardware technology. It also addresses the operational and budgetary constraints to military transformation. The research also explores specific issues of Congressional interest relating to determination, appropriation, authorization, and oversight of defense priorities.

Assessment of US Military Operations Against Iraq.

This paper provides a brief assessment of the implications of current and on-going US military operations in Southwest Asia in the context of US policy regarding the Saddam Hussein regime and elimination of Iraqi WMD. The author divides the work into three areas: 1) strategic assessment discussing the aims of current military operations in Southwest Asia; 2) political assessment which shows how military operations in Southwest Asia support the Bush Administration's political objectives in both the international and domestic arenas; and 3) military assessment which shows how on-going military operations in Southwest Asia, specifically against Iraq, are a continuation of a pattern of operations since 1991 that seek to support US strategic and regional security objectives, to contain Iraq, to degrade Iraqi military capabilities, and most recently, to establish favorable conditions for possible large scale military operations against Iraq, if directed.

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A Questions of Access: Reviewing Air Mobility Command's Force Mix Post 9-11. This research effort compares post 9-11 air mobility requirements (actual and forecast) to Air Mobility Command's (AMC) Active—Air Reserve Component (ARC) force mix to determine if this mix is correct for today's operational requirements. The author limits the scope of the project focusing on AMC airframes and aircrews. The author identifies several key issues: 1) The determination that requirements have increased enough to warrant consideration of a new force structure and; 2) An analysis of how this increased tempo is being borne (airframe utilization rates and aircrew availability). The study evolves beyond the question of force structure mix and into one of airframe and aircrew access. The research: 1) Frames the situation; 2) Determines if there is a problem; 3) Reviews principles for determining the force mix; 4) Analyzes airframe workload and utilization rates; 5) Considers options to increase aircrew/airframe access and 6) Concludes with a recommended course of action—i.e., a shift of airframes and aircrews back to the active component, with an increase in active-associate units, is the best option to meet operational demands.

The International Development of Space and Its Impact on US Space Policy. The purpose of this paper is to propose a methodology policymakers might use to protect US national interests in responding to the increased international development of space. Before proposing any methodology, the author first establishes a foundation on which an understanding of any thesis must be based. It defines the significance of space in today's global environment; details how space has become an integral part of both national security and economic vitality for developed and developing nations. The work then describes US space policy, and how it has evolved over the past 50 years. Next, the author identifies the major space-faring nations and outlines their capabilities, future objectives and stated national space policies. In delineating the international development of space, the paper draws a close connection between military threat, and political and economic competition in space as reasons for concerns by American policy makers. The paper concludes by answering two questions. First, it explains why following a multilateral, diplomatic and legal approach to confronting international space development is the most beneficial strategy to protecting American national interests. Second, it addresses why policy makers will use multilateral engagement to resolve continuous space development issues despite inclinations to act otherwise.

The United States, Japan and China—The Key to Stability on the Korean Peninsula. This paper explores the national security relationships between the United States, China, Japan and how they relate to both the Republic of Korea (ROK) and the Democratic Peoples Republic of Korea (DPRK). The author begins the work by highlighting the current security environment including the 1954 Mutual Defense Treaty between the ROK and the US; the role of the current military structure, the ROK-US Combined Forces Command; and the threat that the DPRK possesses. The author brings in to the argument how several regional powers also exert influence—specifically looking at Japan and China. In conclusion the

author deals with US policy for Northeast Asia and the impacts Japan and China could have on future relationships.

Goldwater-Nichols: The Next Step. This paper looks at the history of defense reorganization, the environment since the Goldwater-Nichols Act, and how once again the military services are unable to work effectively together as a joint team—especially with respect to the resource allocation process. The work focuses on the planning, programming, and budgeting system, the Joint Requirement and Operations Council's purpose and responsibilities, and finally on the acquisition process, and its functionality in light of today's rapidly evolving technology.

Transatlantic Security in Light of the 'War on Terrorism': What is the Future of NATO and the European Security and Defense Policy (ESDP). This paper aims to help the reader understand the complexities of the ESDP especially after the events of '9-11'. Specifically, how fielding a European rapid reaction force from a conglomeration of nation states separate from NATO will be a significant challenge. The objectives of the work are to address two complex issues concerning the security dilemma of Europe and trans-Atlantic relations' post '9-11'. The author begins by assessing how European member states, the EU and NATO stand individually and as organizations in their support or opposition to the development of the ESDP and NATO's cooperative security development, post '9-11'. Secondly, the author attempts to determine what the short-term and long-term implications of recent elections in Europe and the US have on the advancement of the European Defense Force. The author concludes with an assessment, which hopefully will give policy makers a better understanding of the geopolitical, social, economic, and military indicators in the European and Russian area of operations.

Standing-up Northern Command—The Canadian Perspectives and Implications. This paper's objective is to capture, from the Canadian perspective, the future implications and choices the Canadian government may or must consider in its pursuit of its national security policy with regards to collective security and defense of North America. The author explores the changing military relationship between the countries and reviews the implications and risks to Canadian security interests—which include the Canadian implications of the realignment of unified commands, the potential marginalization of NORAD, and Canada's pending decisions on the US National Missile Defense. The author also explores the Canadian government and public's motivations and choices for US-Canada collective defense and security opportunities, perceived sovereignty issues, its role as a middle power and its collective defense with the US. The work concludes by outlining Canadian decisions, options and alternatives in its pursuit of its national security, and its collective defense arrangements with the US.

Terrorism and the Changing Face of Military Intelligence. In this work, the author addresses DOD all source, analytic intelligence apparatus and assesses its effort to combat transnational terrorism. Specifically, the author argues the DOD intelligence community requires a cultural shift to more

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effectively prosecute the war on terrorism and strengthen America's national security—pointing out that existing cultural biases, stove-piped operational processes and limited analyst recruitment programs have weakened the DOD intelligence community's ability to face the twenty-first century terrorist enemy. The study first addresses the recent history of the intelligence community's efforts to battle terrorism. Evidence both criticizing and supporting the intelligence community's efforts is presented and the impact of key “intel gaps” and lessons learned are analyzed. From this broad survey and analysis, the author then focuses on two areas: the operational culture of DOD's analytic intelligence community and the process of intel analysis. Drawing from interviews with senior DOD intel officials, and the work of several noted scholars, the author argues operational culture and intel analysis are the two most critical pieces requiring change within the DOD intel community. The author concludes with a number of prescriptions for the future.

Transformation Dilemma: Air Force Special Operations Command and the role in the future of the Air Force and Special Operations”. Using transformation roadmaps of both the US Special Operations Command (USSOCOM) and the Air Force Special Operations Command (AFSOC) as well as current doctrine and force structure, this research project analyzes congruencies and inconsistencies in both organizations plans with reference to organizing, training, and equipping AFSOC forces. Based on those comparisons, the author looks at how the current AFSOC long-range plan is postured to support both strategies. The author also reviews the AF's approach to transformation of Low Density/High Demand assets with a goal to seek similar applications to AFSOC. The work concludes by proposing transformation initiatives that the Air Force and USSOCOM could integrate into a joint strategy to meet the goals of DOD's transformation.

Proliferation of Russian Military Equipment: Implications for US Air and Space Power. This work begins with the assertion that Russia is flooding world markets with military equipment. This flood of equipment is acting like a fuel source for terrorist organizations and countries around the world to use force against their enemies. The paper analyzes the effects of this flood of equipment in four regions of the world. The work also shows that Russian proliferation is marginalizing the effectiveness of US airpower because the US does not have quick and regular access to the thousands of hot spots military proliferation is creating. The author contends the USAF's current model for airpower application is old and inflexible—it suffers from a need for access and logistic lines of supply. The paper concludes with the author stating that American airpower advocates must re-shape the military-industrial complex to produce an airpower capability that gives America “on call” firepower anywhere in the world within minutes. Additionally, the author states America must make this technological and philosophical leap now, while we have an advantage over our adversaries, or we will find ourselves irrelevant and incapable of responding to the next “unexpected” world event that threatens our national security.

Rebuilding Iraq: Britain's Legacy, America's Obligation.

This paper discusses the British military's role in building a modern and independent Iraqi state by first investigating the nature of the British military administration during direct British rule. Secondly, the paper examines the use of the Royal Air Force in both occupation and power projection roles after Britain assumed a primarily advisory role in Iraqi governance. Personal papers of those involved; the author in developing his thesis uses official governmental records, interviews of modern policy makers, historians and regional experts and scholarly historic and contemporary works. The author does not advocate any derived course of action—just simply states them. However, the author does feel it is important that his audience learn more about the thirty year British military occupation of Iraq in order to avoid their mistakes and embrace their successes.

The Role of Civil Affairs in A Transformed DOD. This paper argues that an assessment of how our key war-termination partners view strategy (in general, and with respect to the specific conflict) is a critical first step in the United States maximizing its achievement of strategic political objectives. The author initiates his thesis by first identifying the key elements of strategy, reviewing the conflict resolution process, and then identifying key players that are representative of the diverse group of organizations involved in this process. Next, the author proposes a strategy model, and evaluates how the key players concepts of strategy differ and then tests the utility of such an approach by applying it to civil-military operations in Bosnia. The paper concludes by suggesting ways in which US military strategists might use such an approach to better articulate civil-military operations strategy and, as a result, help maximize achievement of long-term US political objectives.

Paved with Good Intentions: The Failure of American Policy Towards Iraq. In this thesis the author asserts that the implementation of US policy in the presidential administrations of the 1990s post Operation DESERT STORM has not been consistent with stated policy and objectives. The paper examines and compares stated official US policy after Operation DESERT STORM with actual actions. The author begins by reviewing US relations with Iraq prior to the Gulf War, moves on to examining US policy toward Iraq during the Gulf War and contrasting state policy and actual policy towards Iraq post-Gulf War and assesses the results of those policies, and then follows with an assessment of the impact of US policy on current and future USAF operations in the region. The paper concludes by proposing some adjustments to current US policy and some suggestions for US policy towards a post-Saddam Iraq. The author uses a research style that consists of a review of primary and secondary sources, coupled with interviews of regional embassy officials, regional experts, and American political and military policy-makers.

More Bandwidth Doesn't Mean what You Think It Means: Why the Air Force Cannot Utilize the Full Potential of Its Enterprise Information Technology (IT) Systems. This research effort is an attempt by the author to provide a technical argument for changing the current AF unclassified

2002 Research at USAF National Defense Fellows

computer network architecture. This paper explains how the AF is fielding enterprise level applications, such as the AF portal, that require users all over the world to connect to a single serve or small number of servers. To do this each AF user must establish a network connection through their local base network, out the base network security perimeter, through the Defense Information System Agency (DISA) operated Non-classified Internet Protocol Router Network (NIPRNET), through another network security perimeter, and finally through the destination base network to the enterprise application server. The author recommends that the AF prioritize network applications and users to guarantee a high level of service to important network traffic. Additionally, explores the current measures the AF is taking to protect the network from hostile network activity. The author proposes actions the AF could take to substantially reduce the number of network ingress points to defend and protect the network.

Is Kosovo A Special Case: An Assessment of the Military and Political Components. In this paper the author examines the collective security process of both the political component and the military component and evaluates how well the key institutional players work. Specifically, the paper address the ability of the United Nations and the European regional security organizations, The European Union (EU), the European Community (EC), Organization for Security and Cooperation in Europe (OSCE), the United Nations (UN), and the North Atlantic Treaty Organization (NATO) to deal with the Kosovo conflict. The paper reviews pertinent aspects of the region's history. It analyzes the national security interests of the major western states capable of influencing the conflict, and the preferred multilateral approach in Kosovo and the surrounding region. It also examines and evaluates the roles of the EU, EC, OSCE, UN, and NATO, in terms of their effectiveness in dealing with Kosovo. Finally, the paper addresses strengths and weaknesses of the political and military components, EU, EC, OSCE, UN, and NATO, as revealed in the conflict and seeks to determine the applicability of lessons learned to other conflicts such as Afghanistan and Iraq.

ICBMs—Their Relevance to US Security and USAF Core Competencies. This thesis is intended to examine the importance of intercontinental ballistic missiles for America's national security, particularly against a backdrop of national security and military strategies that rely on preemption and precision strike. Secondly, the research aims to address whether and how ICBMs make contributions to USAF core competencies. The author identifies three major research objectives—understand the historical role of the ICBMs; review contemporary guidance and doctrine in terms of explicit and implicit relationships to ICBMs; and assess the ICBMs future contributions, including aspects such as 21st Century nuclear deterrence, holding hard and deep buried targets at risk and conventional strike, among others.

Cyber warfare and Deterrence. This research paper outlines the major considerations surrounding the US related to cyber warfare as deterrence means. The paper opens by providing an analysis of cyber warfare as a national and international security concern and highlights key aspects relevant to

considerations of deterrence dynamics. Key aspects addressed include what international actors may possess these capabilities, offense-defense balances in cyber war, and the influence of network and infrastructure complexity on cyber warfare. The author also examines the relationship of cyber warfare to other forms of warfare. The paper conducts a conceptual analysis of how traditional deterrence concepts including: the viability of different approaches (punishment, denial and defense): role of rational actor calculations and signaling behaviors, modes of deterrence failure. The paper also addresses how other nations and transnational actors view the potential for cyber warfare and their deterrent considerations. This analysis focuses on the advantage that non-state actors have in avoiding traditional deterrent dynamics surrounding retaliatory threats. The paper ends with a look at how possible international agreements may influence the deterrence dynamics for cyber warfare.

“Beyond Precision” Issues of Ethics and Decision Support in Minimizing ‘Collateral Damage’ and its Effects. This research effort looks at how the US military as a moral agent currently endeavors to “do the right thing” by minimizing incidences of unintentional deaths, injuries, and damage resulting from US launched air attacks. It also examines the ethical aspects of how the US government currently responds following such incidences of “collateral damage” and the effects of that response on American interests. The paper opens with a brief survey of the nature of unintended death, injury, and destruction such as that which is reported following air operations in Afghanistan in support of Operation ENDURING FREEDOM (OEF). The author then examines from an ethical perspective the multiple factors shaping the military decision process that first determines when, where, and how to attack from the air, and then assesses the consequences of those air strikes and required follow-up actions. Finally the author offers insights and recommendations arising from this examination that could improve the ethical support provided to decision makers as they work to avoid unintended casualties and damage and to pursue national objectives.

An Examination of the NATO EU Relationship in Light of Efforts to Create EU Rapid Reaction Force and NATO Response Force. This paper examines the EU/NATO relationship specifically in regards to EU efforts to establish a Rapid Reaction Force. (RRF). The author examines the relationship in light of current security environment. Some of the issues addressed include: What are chances of European Rapid Reaction Force coming to fruition? Will it complement or conflict a NATO Response Force? Why does EU need this force? Can it be effective without US and NATO involvement? What was the impact of Kosovo as a watershed for impetus to create this force? What is the correct organizational relationship between EU and NATO for military operations? Is it a valid concept for US to do high-end military operations and NATO/EU allies do low end (peacekeeping)? Would this have a deleterious effect on the Alliance? Will NATO have right of refusal for out of area actions, that is, if NATO does not want to act, then would EU? The author's mode of research includes surveying studies and papers from think tanks and from NATO and EU, attending

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numerous panel discussions with subject matter experts and interviewing NATO, EU, and US representatives and military leaders.

diplomacy campaign needs to reestablish strategic aims and retake the hearts and minds “field” to gain their support.

Command & Control: Centralized Control, Decentralized Execution. The purpose of this paper is to first understand the evolution in command and control as a result of the revolution in military affairs (RMA). The author then moves on to highlight the importance of sharing technology across all levels of warfare (strategic, operational tactical) to support a continuum of control and finally consider the future possibilities as they apply to joint operations. Although the doctrine and principles of command and control discussed in this essay can be applied to all military operations, the specifics center around the command and control of air and space forces in direct support of theater operations, specifically the operational and tactical levels of command and control. The author asserts that centralized control and centralized execution is detrimental to flexibility and command initiative. The author also states that the historic success of air power, since its first use as a military tool, has centered on centralized command and decentralized execution. With the on slot of technological advances in communications and near real-time battle space situational awareness, the natural tendency is to make tactical decisions at the operational level. The author claims this evolution has been exasperated by the lack of integration of intelligence, surveillance and reconnaissance data at the tactical level of execution.

How Can the USAF Develop and Institute A More Effective Leadership Development Program for Its Company Grade and Junior Field Grade Officers in Order to Better Prepare Them for Command of Their First Squadron. This paper proposes a new leadership construct that builds upon what is arguably one of the world’s finest leadership development programs. The proposed construct builds on the process of training, education and experience that produces the world’s greatest war fighting leaders for the world’s greatest air and space force. The authors propose a list of points, which they feel are appropriate for the level of the officer’s development.

Answering Al-Qaeda: The Battle for the Hearts and Minds in the Middle East. This paper begins with the premise that since the terrorist group, Al-Qaeda, began conducting operations against the US and its allies, Osama Bin Laden has mounted a concurrent media attack with anti-US statements and religious pronouncements (fatwas), placing blame solely on US foreign policy. The author states that in analyzing various models of terrorist systems, their members, and potential influences on those members prior to their turn toward radicalism, some clear opportunities to employ information in the war on terror emerge. The author proposes re-introducing a message that answers the allegations from Al-Qaeda and participates in radio or in televised debates, interviews and other mediums that allow moderate Muslims access to pro-US political discourse. The author also states that the modernizing forces in the Middle East, educated, moderate Muslims—are our natural allies as well in the war on terror. The author concludes by stating the US public

2002 Research at CADRE

CADRE's Supports AU's World-class Faculty and Students

By Lt Col John Petito, Chief, CADRE's AU Research Support Division

The faculty and students at Maxwell schools comprise a world-class accumulation of practical and theoretical expertise on air and space power. The job of the AU Research Support staff is to help market the research accomplishments of this august group. Producing this *Bulletin* is one way we accomplish our mission.

We also conduct the annual AU call for research topics on behalf of the AU commander, where each Spring AU invites the submission of prospective research topics from DOD, AF, MAJCOMs, unified commands, and the Air Staff. These prospective topics are then fed into the student research programs at AU during the academic year.

In 2002, we continued our two services. First, we produced one product, *The Annual Report to Sponsors*—summarizing the papers written on their suggested topics. Second, these papers were made immediately available for official use via our SIPRNET site at <http://research.maxwell.af.smil.mil/>. These were the key components of the AU Call for Topics that occurred in 2002. We plan to use the same procedure in the future.

During the summer and fall, AU Research Support works closely with the research directors at each AU graduate school (including AFIT) and AU Public Affairs to perform a security review on the superior student papers and theses. Once approved for public release, we electronically publish each research study to our Internet site—the AU Research Web. The fruit of AU research programs for 2002 are summarized.

This year, in concert with the research directors at each school, the AU research support team gathered over 330 potential research topics, hosted kickoff events for the student research programs across AU, and “e-published” over 150 research studies.

We are striving to provide world-class research support to make the most of our world-class faculty and students!

CADRE's Airpower Research Institute

By Colonel Allan Howey, Director

ARI is one of six directorates of CADRE. Airpower Research Institute (ARI) fulfills an important role in AU by acting as a “cradle to grave” system for research—research made available both in print and electronically. The institute not only solicits and publishes research but also carries out its own research projects and supports other AU research programs.

The AU Dean of Research's office operates out of ARI with the mission of “creating research opportunities that promote professional development and produce innovative thinking on critical military issues.” To accomplish this mission, the dean works closely with research directors in AU schools, the AU

Command Research Advisory Board (CRAB) and ARI's Research Support Division.

The Professional Journals Division seeks to promote discussion, debate, innovative thinking, and good writing on a wide range of issues relating to aerospace power. It produces three versions of the quarterly *Air and Space Power Journal (ASPJ)*—the English, Spanish, and Portuguese editions. The division also publishes an on-line journal titled the *Air and Space Power Chronicles* (see page 20 of this *Bulletin*). These journals not only solicit scholarly articles and original research but also provide venues for publishing those pieces.

The task of producing timely research falls to the Research Division of ARI. This division consists of a small group of military defense analysts who research future concepts of operations. The division publishes the *ARI Papers*.

CADRE's ARI reaches across the spectrum of research needs. It joins the Air Force's other research centers in providing both a stimulus for original research and a vehicle for presenting the results of that research.

The CADRE Papers and ARI Papers

By Dr. Daniel Mortensen, Series Editor

CADRE Papers and *ARI Papers* are occasional publications sponsored by CADRE's Airpower Research Institute. Both are dedicated to promoting understanding of air and space power theory, doctrine, and application. *CADRE Papers* are published by AU Press; *ARI Papers* by CADRE's ARI directorate. Studies from both series are broadly distributed to USAF, the Joint Staff and Joint Commands, DOD, and other governmental organizations, sister-service PME schools, selected universities, military and civilian think tanks, and leading scholars. All are available on the AU Research Web at <http://research.au.af.mil/> or <http://research.airuniv.edu>.

An older *CADRE Paper* series (1985-90) is available on this electronic site as is the revived series starting in 1998. The current series is also available in hard copy from the AU Press.

All faculty and students assigned to AU are invited to submit unclassified manuscripts to ARI for publication consideration. Manuscripts should deal with air and space history, theory, doctrine, strategy, or employment or with joint or combined service matters bearing on the application of air and space power.

Three new *CADRE Papers* have been published since May 2002:

- *Turning the Vertical Flank: Airpower as a Maneuver Force in the Theater Campaign*, Robert P. Given, no. 13.

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The US Air Force contends that airpower is a maneuver force and cites the 1991 Gulf War as the prime example. Critics suggest that the Gulf War was an aberration. Lt Col Givens provides a general examination of warfare from ancient Greece to the American Civil War to parry the exceptionalism. He then examines three distinctly different air operations—1973 Arab-Israeli War, the 1972 Communist Easter Offensive in Vietnam, and air operations in the Normandy campaign—to suggest that airpower functioned as a maneuver force in all three operations. This manuscript was originally written as a master's thesis for SAASS.

- *The Politics of Coercion: Toward a Theory of Coercive Airpower for Post-Cold War Conflict*, Ellwood P. Hinman IV, no. 14.

The author investigates the concept of coercion theory in terms of airpower in the 21st century. Framing his analysis on three key attributes of conflict in the last several years—limited, nonprotracted war; political restraint; and the importance of a better state of peace—Hinman examines the contemporary application of the four major theories of coercive airpower, including punishment, risk, decapitation, and denial. This manuscript was originally written as a master's thesis for SAASS.

- *Thinking Effects: Effects-Based Methodology for Joint Operations*, Edward C. Mann III, Gary Endersby, and Thomas R. Searle, no. 15.

These authors propose that military actions should be employed through Effects-Based Operations (EBO). Here is an extended explanation of EBO methodology defined in an earlier Air Combat Command white paper, "Effects-Based Operations." Challenged by the white paper to define procedures in EBO methodology, they further codified the EBO way of thinking. Two issues stand out: First, the difficulty in changing service and joint doctrine to fully articulate what can be accomplished with EBO. Second, the tough issues of command and control using this methodology.

The Air Staff and Senior AF Leaders Commission the *ARI Papers*

Originally conceived to provide independent analysis of a wide range of issue related to airpower theory, doctrine, and employment, the *ARI Papers* now emphasize Concepts of Operations as well. The purpose of the papers is to provide quick turn research products that will underwrite mature decision-making by the Air Force and joint warfighters, as well as support education, doctrine development and research at AU.

One new *ARI Paper* has been published since May 2002:

- *The Air Expeditionary Force in Perspective*, Daniel R. Mortensen, editor, ARI Paper 2003-01

Military organizations have conducted expeditionary operations for centuries; airmen have participated in air expeditions for some ninety years. Early expeditions before air power developed evoke suggestive lessons for current

expeditionary operations. Serious students of military operations know that history does not repeat itself, but some observers insist that if history does not repeat itself, it often rhymes. The identification of lessons from the past events frequently provides planners and commanders the background, wisdom, and equally important element of context that facilitate better judgment in the imperfect decision-making process. This collection of short essays begins with an account of our Air Force leadership promoting the idea of expeditionary air operations. Studies offered from the 1995-6 AEF I-III deployment to the Middle East, World War I, World War II, and the air campaign against Pancho Villa evoke images of current war planning for Iraq.

Research and Publication Opportunities

AU Press Publications

By Bessie Varner, Deputy Director

AU Press, a division of AU Library, publishes school-selected student papers, faculty research efforts, textbooks, curriculum-related materials, as well as the *AU Catalog* and other administrative documents in direct support of AU PME. Among the series of school-sponsored papers we support are the *AWC Maxwell Papers*, *ACSC Wright Flyers*, *SAASS Thesis series*, and *CADRE Papers*. In addition, AU Press sponsors the *Fairchild Papers*, selected essays of research value to the Air Force that otherwise would not be published. Recent monographs in this series include *Employee Warriors and the Future of the American Fighting Force*, Hugh S. Vest; *War from above the Clouds: B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Doctrine*, William P. Head; *Whither Space Power?*, Simon Worden and John Shaw; and *Ten Propositions Regarding Spacepower*, M. V. Smith.

AU Press also publishes monographs, books, and other research and educational materials under the guidance of the AU Publications Review Board (PRB), at the instruction of higher level headquarters, and in cooperation with Air Force agencies. Recent publications include *The Praetorian STARship: The Untold Story of the Combat Talon*, Jerry L. Thigpen, a cooperative venture with Air Force Special Operations; *Milestones in Strategic Arms Control, 1945-2000*, editors James M. Smith and Gwendolyn Hall, a collaborative effort with the Institute for National Security Studies; *American Airpower Comes of Age: General Henry H. "Hap" Arnold's World War II Diaries*, editor Gen John W. Huston, USAF, Retired, a major resource on one of the Air Force's founders.

The Press will soon publish several major works of interest to the air and space community. These include *A-10s over Kosovo: The Victory of Airpower over a Fielded Army as Told by the Airmen Who Fought in Operation Allied Force*, editors Christopher E. Haave and Phil M. Haun; *Aviation militaire (Military Aviation)*, Clement Ader, translated by Lee Kennett; *Responsibility of Command: How UN and NATO Commanders Influenced Airpower over Bosnia*, Mark A. Bucknam; and *Interagency Fratricide: Policy Failures in the Persian Gulf and Bosnia*, Vicki J. Rast.

Printed copies of our products are available at the AU Press Bookstore, 131 West Shumacher Avenue, Maxwell AFB, AL 36112-6615. Electronic copies are available via our Web site at <http://www.aupress.au.af.mil>. For a printed or electronic copy of the *Air University Press Publications* catalog, please contact the bookstore at 334-953-2773, DSN 493-2773, or fax us at 334-953-6862. If you have a completed manuscript you would like our review board to consider for publication, please contact Mr. Larry Carter, Acquisitions Editor, at the address above or at extension 334-953-4955.

Air and Space Power Journal

By Lt Col Chris Cain, ASPJ Senior Editor

Air and Space Power Journal (ASPJ) is the professional journal of the USAF and the primary forum for worldwide aerospace power debate. *ASPJ* promotes professional dialogue for all air and space professionals and is published quarterly in English, Spanish, and Portuguese. The journal focuses on the operational and strategic levels of war and contains feature length (2,500–5,000 words) and opinion (1,500 words) articles on these and other topics of interest to Air Force members.

For the computer savvy reader, *ASPJ* is available on-line at our *Air and Space Power Chronicles* Web site, www.airpower.au.af.mil. Here you will also find all back issues of *ASPJ* (*Aerospace Power/Airpower Journal*), issues of the *Air University Review* back to 1980, the *Contributor's Corner* and *CGO Voices* on-line journals with more aerospace power articles that could not fit into *ASSJ*, and more. The site is fully indexed and searchable, providing a great research resource.

ASPJ's editors are charged by the CSAF with shaping the aerospace professional dialogue. You can help shape that dialogue by contributing. For guidelines and advice on writing and submitting an article or subscribing to *ASPJ*, see <https://www.airpower.au.af.mil/airchronicles/howto.html>.

Book reviews are one of the best tools for acquiring knowledge—they are also one of the most underused tools. Good book reviews allow you to see one opinion of the work before you invest time, effort, and money reading the book yourself. As professionals, our time is valuable and we cannot afford to waste it reading a poorly written or flawed work. Book reviews help busy professionals decide how to spend your personal development time. *ASPJ* features two book review sections designed to allow our readers to capture the main points of significant books and programs related to air and space power. “Net Assessment” offers long (1,000-1,500 word) reviews that summarize the latest air and space power scholarship and offer a critical assessment of the argument of each work. “Touch and Go” reviews usually consist of 200 word assessments of aviation related works designed to provide the widest range of material for our readers including computer-based products. If you want to contribute a book review, see the list of available books (you get to keep the book in exchange for writing the review) and our reviewer guidelines at:

<http://www.airpower.au.af.mil/airchronicles/bookmain.html>.

Research and Publication Opportunities

Air Force Journal of Logistics

Beth F. Scott, AFJL Editor

The *Air Force Journal of Logistics* is the professional logistics publication of the Air Force. We provide an open forum for presenting research, innovative thinking, and ideas and issues of concern to the Air Force and civilian logistics communities.

The *Journal* is distributed worldwide. It reaches all segments of the Air Force and nearly all levels of the Department of Defense and US government. You'll also find the *Journal* is read by foreign military forces in 26 countries, people in industry, and students at universities with undergraduate and graduate programs in logistics.

We have a strong research focus, as our name implies, but that's not our only focus. Logistics thought and history are two of the major subject areas you'll find in the *Journal*. And by no means are these areas restricted to just military issues or are our authors all from the military.

The AFJL staff also produces and publishes a variety of high-impact publications—books, monographs, reading lists, and reports. That's part of our mission—address logistics issues, ideas, research, and information for aerospace forces.

Unsolicited manuscripts are welcome from any source (civilian or military). They are subject to expert and peer review, internally and externally, to ensure technical competence, accuracy, reflection of existing policy, and proper regard for security. Manuscripts should be from 1,500 to 5,500 words. The preferred method of submission is via electronic mail (e-mail) to editor-AFJL@maxwell.af.mil. Manuscripts can also be submitted in hard copy to the *Air Force Journal of Logistics*, 501 Ward Street, Maxwell AFB, Gunter Annex, Alabama 36114-3236. If this method is used, a 3.5-inch disk, Zip disk, or compact disk containing an electronic version of the manuscript should accompany the hard copy. For further information on writing and submitting a manuscript, contact the AFJL staff at DSN 596-4087/4088 or Commercial (334) 416-4087/4088.

On the Internet

In addition to the printed magazine, we also have an online version of the *Journal*, which can be downloaded or read via any standard Web-based browser at <http://www.afma.hq.af.mil/lgj/afjlhome.html>.

Ordering Information

US government organizations, employees of the US government, or colleges and universities with undergraduate or graduate programs in logistics should contact the AFJL editorial staff for ordering information: DSN 596-4087/4088 or commercial (334) 416-4087/4088. AFJL subscriptions are available through the Superintendent of Documents, US Government Printing Office, Washington DC 20402. Annual rates are \$15.00 domestic and \$18.75 outside the United States. The AFJL editorial staff maintains a limited supply of back issues.

USAF Institute for National Security Studies (INSS), (USAF Academy)

By Dr. James M. Smith, Director

The mission of the Air Force Institute for National Security Affairs (INSS) is "to promote national security research for the Department of Defense within the military academic community, to foster the development of strategic perspective within the United States Armed Forces, and to support national security discourse through outreach and education." Its research focuses on military policy issues relevant to the following areas: arms control and strategic security; counter-proliferation, force protection, and homeland security; air and space issues and planning; information operations and information warfare; and regional and emerging national security issues.

INSS coordinates and focuses thinking from across the military academic community to develop new ideas for defense policy making. INSS fosters strategic partnership with institutions such as Air University in its development of topics, selection of researchers, and administration of sponsored research. It also hosts conferences and workshops and facilitates the dissemination of information to a wide range of private and government organizations.

INSS publications in conjunction with Air University (books and occasional paper available on-line at www.usafa.af.mil/INSS):

- ◆ James M. Smith and Gwendolyn M. Hall, editors, *Milestones in Strategic Arms Control 1945-2000: United States Air Force Roles and Outcomes* (AU Press, September 2002).
- ◆ Peter L. Hays, *United States Military Space: Into the Twenty-First Century*, INSS Occasional Paper #42 (AU Press, September 2002).
- ◆ Troy S. Thomas, "Slumlords: Aerospace Power in Urban Fights," *Aerospace Power Journal* XVI (Spring 2002).
- ◆ James M. Smith and Douglas J. Murray, "Valuing Air Force Education and Training: Faculty Duty and Leader Development," *Air and Space Power Journal* XVI (Winter 2002).

Bradley D. Spacy and Michael I. Trapp, "Train Like We Fight, Fight Like We Train: Establishing the Air and Space Expeditionary Force Training Center," *Air and Space Power Journal* XVI (Winter 2002).

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School Abbreviations

ACSC	Air Command & Staff College
AF Fellows	Air Force Fellows
AWC	Air War College
SAASS	School for Advanced Air & Space Studies

DOD & JCS

Research studies undertaken on topics for the Department of Defense and the Joint Chiefs of Staff.

Joint Chiefs of Staff (JCS)

Col Stephen Wolborsky, DSN 493-2384, is the Acting JCS Command Chair to AU.

Sponsor and Requested Topic	Title of Paper	Student	School
Joint Vision 2020	<i>Framework of the DoD Logistics System: Educating Leaders on Logistics</i>	Lyndon Anderson	AF Fellows
Global Strike Assets: Who Has Control?	<i>The Death of "Superman": The Case Against Specialized Tanker Aircraft in the USAF</i>	Thomas Gibson	SAASS
Contractor Support On the Battlefield?	<i>Contractors on the Battlefield: Planning Considerations and Requirements</i>	George Hamontree	ACSC
Joint Vision 2020	<i>U.S. Military Transformation and Experimentation: Historical Perspectives, Prospects, and Prescription</i>	Rand Miller	AF Fellows
AU-Initiated Research	<i>Progress and Opportunities: Supporting the CINCs' Warfighting Integrated Priority Requirements</i>	Anthony Hardin	AF Fellows
AU-Initiated Research	<i>Shades of Gray: Gradual Escalation and Coercive Diplomacy</i>	Alan Stephenson	AWC

Office of the Secretary of Defense (OSD)

Public Affairs Redux: Worldwide Audit Of Public Affairs Activities	<i>Breaking News: Public Affairs and the 21st Century</i>	Marcia Rossi	AF Fellows
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Unified Commands

Research studies undertaken on topics for Unified Combatant Commands.

US Central Command

Sponsor and Requested Topic	Title of Paper	Student	School
Engagement Strategy for Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan	<i>The Central Asian Republics After September 11, 2001: How Should the US Alter Its Engagement Strategy?</i>	Anthony Budzik	ACSC
Chem/Biological Agent Detection	<i>Counter-Bioterrorism: US Intelligence Implications</i>	Howard Mardis	AF Fellows
Future Iraqi Policy	<i>Nebuchadnezzar's Sphinx: What Have We Learned From Baghdad's Plan to take Kuwait</i>	Douglas Mastriano	SAASS
Future Iraqi Policy	<i>Saddam Hussein: The Man, His Perspectives, and Implications for US Policy</i>	Sandra Wilkerson-Leaf	ACSC
Engagement Strategy to Neutralize/Mitigate Islamic Extremist Terrorist Threat	<i>Strategic Provocation: Explaining Terrorist Attacks on America</i>	Ronald Zimmerman	SAASS

US European Command

AU-Initiated Research	<i>Ares, Janus, Globalization: A Primer for the Military Leader in NATO</i>	Dean Clemons	AF Fellows
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US Joint Forces Command

Effects Generated by Surveillance and Fires from Space	<i>Fires from Heaven: Force Application Through Space</i>	Brian Fredriksson	ACSC
Training Future Joint Force Commanders	<i>Social Network Mapping: A New Tool for the Leadership Toolbox</i>	Elisabeth Strines	AF Fellows

US Pacific Command

AU-Initiated Research	<i>Implications of the US War on Terrorism for US-China Policy: A Strategic Window</i>	John Carter	AF Fellows
AU-Initiated Research	<i>From Islands to Networks: A Blueprint for a Multilateral Security Regime in the Asia-Pacific Region</i>	Roderick Zastrow	AWC

2002 Research at Maxwell

US Southern Command

Sponsor and Requested Topic	Title of Paper	Student	School
Assessing the Emerging Non-democratic Influence in the Southern Hemisphere	<i>Re-Shaping US Foreign Policy Toward Cuba: A Strategic Outreach</i>	Russell Blaine	AF Fellows
Monitoring and Interdicting Contraband	<i>Airpower's Role in Homeland Defense: A Western Hemisphere Perspective</i>	Roger Witek	SAASS

US Space Command

Col James Lee (DSN 493-2431) is the Space Command Chair to AU. Other papers relating to space are listed under Air Force Space Command.

Command & Control (C2) of Space, Computer Network Operations (CNO) and Information Operations (IO) Forces	<i>Supporting the Information-Centric 2001 Quadrennial Defense Review: The Case for an Information Service</i>	Robert Costa	ACSC
Command & Control (C2) of Space, Computer Network Operations (CNO) and Information Operations (IO) Forces	<i>Command & Control Structures for Space and Information Operations in Joint Command</i>	Randall White	ACSC
AU-Initiated Research	<i>Shooting Stars: Conducting Coercion Through Space Strike</i>	David LaRivee	AF Fellows
AU-Initiated Research	<i>The 65-Mile Seam</i>	Anthony Russo	AWC

US Strategic Command

US Or Russian Strategic Forces(2010/2020)	<i>Vladimir Vladimirovich Putin and Russian Policy for the New Millenium: A New Approach 2001-2002</i>	Scott Bethel	AF Fellows
Collaborative State-Sponsored Terrorism	<i>"Complex" Targeting: An Complexity Based Theory and Its Application to Radical Islamic Terrorism</i>	Kevin Glenn	SAASS
The Changing Nature of Deterrence	<i>The Role of Nuclear Weapons in the 21st Century</i>	Gasper Gulotta	AWC

2002 Research at Maxwell

US Transportation Command

Col Ben Young (DSN 493-2305) is the Mobility Chair for AU. Other studies on mobility are listed under Air Mobility Command.

Sponsor and Requested Topic	Title of Paper	Student	School
Director of Mobility Forces(DIRMOBFOR) Role in Military Operations Other than War(MOOTW)	Control of Mobility Air Forces: Should the Director of Mobility Forces Command?	Rolanda Burnett	SAASS
Next Generation Tanker Requirement	Replacing the KC-135, Is the Boeing 767 the Answer?	Darren Hartford	ACSC
Analysis of the Air Mobility Fleet Capability to Adequately Support Army Transformation Requirements	ARMY NEEDS IT WHEN? Deploying the Interim Brigade Combat Team	Brian Robinson	ACSC
Industry Vs. DoD XML Tag Management	An Extensible Markup Language (XML) Strategy for Focused Logistics Background and Value of Standards Development and Management	Frank Simcox	ACSC

Sister Services

Research studies undertaken on topics for sister services.

US Army

Parallelism Between Army and Air Force Engineer Operations	<i>Duplication in Joint Engineer Efforts: Existing Parallelisms Between the US Army and Air Force in Rear Area Construction Engineer Operations</i>	Edward Mead	ACSC
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HQ AF

Research studies undertaken on topics for the Secretary of the Air Force and Air Staff. A number of studies sponsored by the Air Staff through the Institute for National Security Studies are listed under the "Battlelabs and Research Centers" of this report.

2002 Research at Maxwell

AF Surgeon General

Col Michael Ainscough (DSN 493-4849) is the Surgeon General's Command Chair to AU. Papers on Weapons of Mass Destruction studies are also listed in the section under the Battlélabs and Research Centers.

Sponsor and Requested Topic	Title of Paper	Student	School
The Casualty Care Interface Between the Air Force Medical Service and Special Operations Forces (SOF) <i>Forces</i>	<i>The Casualty Care Interface Between the Air Force Medical Service and Special Operations (SOF)</i>	Janelle Costa	ACSC
Civil Disaster Response Preparations during the 1950's and 1960's Compared with Current Homeland Security Initiatives	<i>Adjusting to Changing Threats: From Cold War Civil Defense to Homeland Security</i>	Scott Sanchez	ACSC
AU-Initiated Research	<i>Threats from Within, Threats From Without: A Strategy to Combat Global Insurgency</i>	Douglas Stickle	SAASS

Air National Guard

Col Brad Copeland (DSN 493-7039) is the Air National Guard Advisor to AU.

AU-Initiated Research	<i>The Dual Status of the National Guard and the Total Force</i>	Charles Huguelet	AWC
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HQ AF-Air & Space Operations (AF/XO)

Force Protection in the Grey Zone	<i>Identifying Threats: Improving Intelligence and Counterintelligence Support to Force Protection</i>	Michael Imbus	ACSC
Information Operations	<i>Planning and Conducting Offensive Counterinformation Operations</i>	Virginia Swentkofske	ACSC
Time-Critical Targets	<i>Increasing Time Sensitive Targeting Efficiency Through Highly Integrated C2ISR</i>	Mark Waite	ACSC
Time-Critical Targets	<i>A Time-Critical Targeting Roadmap</i>	Gregory Wilson	ACSC
AU-Initiated Research	<i>F-22: The Last Manned Air Superiority Fighter?</i>	William Lewis	SAASS

HQ AF-Communications & Information (AF/SC)

See also the section for the IO studies for the Institute for National Security Studies.

A Case Study: Allied Force Model for Improved Reachback	<i>OPERATION ALLIED FORCE: Reachback and Information Processes</i>	Kathy Davis	ACSC
A Visionary Look at the 21st Century Communications Squadron	<i>A Visionary Look at Air Force Comm-Info Squadrons for 2020 and Beyond</i>	Clayton Perce	ACSC
AU-Initiated Research	<i>Plays Well with Others: Enhancing DoD's Role In Protecting the National Information Infrastructure</i>	William Durall	AF Fellows

2002 Research at Maxwell

HQ AF-Installation and Logistics (AF/IL)

Sponsor and Requested Topic	Title of Paper	Student	School
The CSAF Logistics Review: A Case Study for Implementing Change...for Better or Worse	<i>CSAF Logistics Review: Focused Improvement for EAF Readiness</i>	Ray Lindsay	ACSC
The CSAF Logistics Review: A Case Study for Implementing Change...for Better or Worse	<i>CSAF Logistics Review: Focused Improvement for EAF Readiness</i>	Kyle Matyi	ACSC

HQ AF-Personnel (AF/DP)

Character and Leadership	<i>Character Assessment Across Air Force Professional Military Education: A Descriptive Investigation</i>	Cassie Barlow	ACSC
Character and Leadership	<i>Fired Up by Commitment, Example, and Values: How High-Performance Organizations Develop Leadership</i>	Kevin Kersh	AF Fellows
Character and Leadership	<i>Commanding an Air Force Squadron in the 21st Century</i>	Jeffry Smith	AWC
AU-Initiated Research	<i>Winning the Retention Wars: USAF, Women Officers, and the Need for Transformation</i>	Laura DiSilverio	AWC

HQ AF-Plans and Programs (AF/XP)

Challenges of Recruiting and Retaining Quality People	<i>Recruitment & Retention: Targeting the Right Generations</i>	Robert McCrory	ACSC
Challenges of Recruiting and Retaining Quality People	<i>Female Officer Promotions and the People Glass Ceiling</i>	Courtney Smith	ACSC
Is the Current Defense Modernization Program Placing Too Much Emphasis on Sustaining Today's Military, As Opposed to a Transformed Military	<i>Ukrainian Air Force Reform and Development Until 2015</i>	Volodymyr Yermilaiev	ACSC

2002 Research at Maxwell

HQ AF-Warfighting Integration (AF/XI)

Sponsor and Requested Topic	Title of Paper	Student	School
AU-Initiated Research	<i>The New Breed of Terrorist</i>	Michael Kometer	SAASS
AU-Initiated Research	<i>Defense or Deterrence? In Pursuit of a New Strategic Defense Outlook</i>	Stella Renner	SAASS

Secretary of the Air Force

AU-Initiated Research	<i>Divided Loyalties: Civil-Military Relations at Risk</i>	Laura DiSilverio	AWC
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AF MAJCOMs

Research studies undertaken on topics for the Major Air Commands. Most of the MAJCOMs have official liaisons at Air University who are designated as "command chairs." These are listed under the section for each command.

AF Materiel Command

Col Kenneth Knapp (DSN 493-6996) is the AFMC Command Chair to AU.

Establish Manpower Standards for PDM Support at ALCs	<i>An Analysis of Manpower Planning and Allocation within the Material Supportability Branch of the Depot Maintenance Group</i>	Bruce Bartholomew	ACSC
Defense Logistics Agency Parts and Conditions that Constrain AF Production Processes	<i>Increasing Readiness and Production Throughput by Improving Defense Logistics Agency (DLA) Consumable Item Availability</i>	Robert Callahan	ACSC
Next Round of BRAC or Military Right-Sizing	<i>E-Procurement and the US Military</i>	David Doe	ACSC
"Fly-one/Fly-all" or "Fly Some"--Rationale for Pilot Pre-Selection and Fit-Test	<i>Winning Wings: USAF Undergraduate Pilot Training</i>	Michael Hays	SAASS
Autonomous Combined Weapon Performance Bomb Damage Assessment (BDA)	<i>Time Critical Targeting: Predictive Versus Reactionary Methods - An Analysis for the Future</i>	Gregory Marzolf	SAASS
Weapon System Compliance Through Pollution Prevention - Focus on Health and Environment (A Case Study)	<i>Weapon System Compliance Through Pollution Prevention - Focus on Health and Environment</i>	Shelia Neumann	ACSC
Reduction in Total Ownership Cost Resulting from Resolving Parts Obsolescence	<i>Cost-Benefit Analysis Tools for Avionics Parts Obsolescence</i>	Luvenia Shuman	ACSC
AU-Initiated Research	<i>Simulation Based Acquisition (SBA) -- Is it taking Root in the Defense Acquisition Community?</i>	Maryann Watson	AWC
AU-Initiated Research	<i>Water...Bulk or Bottled? It's a Bigger Issue than That</i>	Lee Wyatt	AWC

2002 Research at Maxwell

AF Reserve Command

Col Robert Shaw (DSN 493-8290) is the AF Reserve Advisor to AU.

Sponsor and Requested Topic	Title of Paper	Student	School
What is the Real Threat to our Homeland Defense and National Security?	<i>The National Missile Defense Debate in the Post 9-11 Context</i>	Richard Van Hook	ACSC
How will the Air Reserve Components Maintain their Roles with their Current Active Component on a Limited Budget?	<i>An Analysis of the HQ ACC/SV IMA Program's Current Management Practices</i>	Ronald Vaughn	ACSC
What is the Real Threat To Our Homeland Defense and National Security?	<i>An Interagency Command for Homeland Security</i>	Marcia Watkins	ACSC

AF Space Command

Col James Lee (DSN 493-2431) is the Space Command Chair to AU. Other papers relating to space are listed under USSPACE.

Space Test Policy	<i>Developmental Testing and Evaluation in Air Force Space Command: A Plan for Meeting the Challenges of the 21st Century</i>	James Ross	ACSC
AU-Initiated Research	<i>How to Institutionalize Space Superiority In the United States Air Force</i>	Rick Patenaude	AWC
AU-Initiated Research	<i>Power, Influence, and Diplomacy: An Evolved Vision for Space and the United States Military</i>	Stephen Whiting	SAASS

AF Special Operations Command

Col John D. Jogerst (DSN 493-5407) is the Special Operations Chair to AU. Other Special Operations papers are listed under USSOCOM.

Non-Lethal Applications to SOF/AC-130	<i>Non-Lethal Weaponry: Applications to AC-130 Gunships</i>	Justin Bobb	ACSC
CV-22 Train, Deploy and Employ Changes	<i>Strapping In and Bailing Out: Navy and Air Force Joint Acquisition of Aircraft</i>	Michael Grantt	SAASS
Forecasting Humanitarian Crisis	<i>Unique Capabilities: US Military Involvement in Sub-Saharan Africa</i>	Anthony Packard	ACSC
What is the Best Mix of Fixed-Wing AFSOC Air Refueling Tankers?	<i>Probe and Drogue Aerial Refueling Requirements: How Will AFSOC Meet Future Demands?</i>	John Shapland	SAASS

2002 Research at Maxwell

Air Combat Command

The position of Combat Air Forces Chair to AU is currently vacant.

Sponsor and Requested Topic	Title of Paper	Student	School
Should the Air Force Seek to Develop a New Precision Guided Munition for CAS?	<i>Precision Guided CAS Munitions</i>	Kevin Anderson	SAASS
J-Series Weapons and Force	<i>Mission Planning Requirements for Structure Mix Advanced Weapons Employment</i>	Patrick Matthews	ACSC
Hyperspectral Information	<i>Hyperspectral Information: What is It and What Can It Bring to the Fight?</i>	Angela Stout	ACSC
UAV's Into Campaign Plans	<i>Fear No Evil: Unmanned Combat Air Vehicles for Suppression of Enemy Air Defenses</i>	Robert Suminsby	AWC

Air Education and Training Command

Balancing A-76 with Air Force's Combat Capability - Cost Benefit Analysis of A-76	<i>The Promise of A-76: Does Cost Efficiency Translate to Readiness?</i>	Judianna Murray	ACSC
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Air Mobility Command

Col Ben Young (DSN 493-2305) is the Mobility Chair for AU. Other studies on mobility are listed under TRANSCOM.

Aeromedical Evacuation Model for Interface with En Route System	<i>Improving Interface Between Aeromedical Evacuation and En Route Systems</i>	Marie Berry	ACSC
The Feasibility of Unmanned Airlift	<i>Unmanned Airlift: How Should We Proceed?</i>	John Budd	ACSC
Playing Mobility to a Higher Level of Fidelity in Title X Wargames	<i>Title X Wargaming: Optimizing the Level of Logistics Play</i>	Douglas Furst	ACSC
The Feasibility of Unmanned Airlift	<i>Unmanned Airlift: A Viable Option for Meeting the Strategic Airlift</i>	Chad Manske	SAASS
AU-Initiated Research	<i>Leading Air Mobility Operations in Complex Humanitarian</i>	Eileen Isola	AWC

2002 Research at Maxwell

US Air Forces in Europe

The position of Combat Air Forces Chair to AU is currently vacant.

Sponsor and Requested Topic	Title of Paper	Student	School
Improving Coalition Interoperability Through a Pull ATO Based on "Need To Know"	<i>Air Tasking Order Dissemination: Does It Get the Job Done?</i>	Charles Allen	ACSC
Impact of HIV on US Foreign Affairs	<i>HIV/AIDS in African Militaries and Its Impact on National/Regional Security and United State's Security Policy for Sub-Saharan Africa</i>	Michael Cox	AF Fellows
Biological Warfare Threat: Are US Military Food Sources at Risk	<i>America's Food: Does Anthrax Pose a Threat?</i>	Stefanie Perkowski	ACSC
Combined Air Operations Center(CAOC) Open Floor	<i>Forging the Sword: Developing Leaders for the Aerospace Operations Center</i>	Jeffery Smith	SAASS
Impact of Integration (Operationalization) of Public Affairs into Information Operations	<i>Public Diplomacy—Capturing the Information Terrain on the Way to Victory</i>	Linda Urrutia-Varhall	AF Fellows

FOAs & DRUs

Research studies undertaken on topics for Field Operating Agencies and Direct Reporting Units to the Air Staff.

Air Force Doctrine Center

Centralized Versus Decentralized Execution: Conflicting Airpower Tenet	<i>Operational Control of Global Airpower?</i>	Steven Basham	SAASS
Personal Relationships and Communication Between Joint Force Air Component Commanders (JFACC) and Joint Force Commanders (JFC)	<i>The Virtual Council of War: Relationships, Trust and Influence Between the Joint Forces Commander and His Air Component</i>	Martin Hertz	ACSC
Counterland Doctrine	<i>What Happened to BAI? Army and Air Force Battlefield Doctrine Development from Pre-Desert Storm to 2001</i>	Terrance McCaffrey	SAASS

Battlelabs & Research

Research studies undertaken on topics proposed by AF Battlelabs and by various research centers, such as the Institute for National Security Studies (INSS).

2002 Research at Maxwell

AU Center for Strategy And Technology

The AU Center for Strategy and Technology (CSAT) is located at Maxwell and directed by Dr Grant Hammond (DSN 493-6996).

Sponsor and Requested Topic	Title of Paper	Student	School
Innovation and Transformation	<i>Aircrew Performance: Cutting-Edge Technology</i>	Kris Belland	AWC
Innovation and Transformation	<i>Doing Things that Can't be Done: Creating a New Defense Establishment</i>	Kenneth Keskel	AWC
Innovation and Transformation	<i>Hyperspectral Imagery: Warfighting Through a Different Set of Eyes</i>	Paul Pabich	AWC

Institute for National Security Studies

INSS takes project ideas and funding from the Air Staff and stimulates research studies to satisfy these needs. More information on this center is available at www.usafa.af.mil/inss.

Arms Control and Strategic Security (1.1-1.20)	<i>Partnering for Shadow Wars: Alliances, Coalitions, and Arrangements of Convenience.</i>	Norman Brozenick	AF Fellows
Aerospace Issues and Planning(3.1-3.16)	<i>Is the Jury Still Out on the Federal Acquisition Streamlining Act?</i>	Cristie Ditzler-Smith	ACSC
Regional and Emerging National Security Issues (5.14-5.37)	<i>Foie Gras with Ketchup: Understanding Differences and Improving Military Cooperation with the French</i>	Scott Gibson	AF Fellows
Counterproliferation (2.17-2.26)	<i>Suitability of Joint and Air Force Counterterrorism Doctrine</i>	Charles Harris	ACSC
Regional and Emerging National Security Issues (5.1-5.6)	<i>Should the Republic of China on)--Asia Taiwan Return to the United Nations?</i>	Jungyen Kuo	ACSC
Regional and Emerging National Security Issues (5.14-5.37)	<i>America's Credibility at Stake: Arab Perceptions of US Foreign Policy</i>	Michael Meyer	ACSC
Regional and Emerging National Security Issues (5.14-5.37)	<i>Stealth, Precision and Intervention: Military Technology's Impact on National Policy</i>	Ray O'Mara	SAASS
Aerospace Issues and Planning(3.17-3.32)	<i>Train Like We Fight, Fight Like We Train: Establishing the Aerospace Expeditionary Force Training Center</i>	Bradley Spacy	AF Fellows

USAF Counterproliferation Center

The AF Counterproliferation Center is located at Maxwell AFB and directed by Dr. Barry Schneider (DSN 493-2103).

Terrorism	<i>US National Security Strategy in Response to 11 Sep 01</i>	Mark Hiebert	AWC
Terrorism	<i>Negating the Threat of Libyan Weapons of Mass Destruction</i>	Paul Land	AWC

2002 Research at Maxwell

Other Papers of Note

Research studies of general interest.

Air Command and Staff College

Sponsor and Requested Topic	Title of Paper	Student	School
International Officer Independent Research	<i>Security in the Gulf</i>	Ali Bayat Ali-Alassiri	ACSC
International Officer Independent Research	<i>The Arabian Gulf Cooperation Council Economic and Monetary Exchange Rate Union</i>	Adel Albinali	ACSC
International Officer Independent Research	<i>Future Threat</i>	Ibrahim Alfarsi	ACSC
AU-Initiated	<i>The B52 and JDAM in the Close Air Support Role: Train to Employ</i>	Mark Allen	ACSC
International Officer Independent Research	<i>The Development of Leadership and Command Curriculum of the Royal Thai Air Force Air Command and Staff College</i>	Supachotte Chaiwong	ACSC
International Officer Independent Research	<i>Relationship Between the South and North Korea: The Achievements, Obstacles, and Prospects of the Sunshine Policy</i>	Duk Cho	ACSC
International Officer Independent Research	<u>Dispute in the Aegean Sea: The IMIA/KARDAK Crisis</u>	Stergios Arapoglou	ACSC
Close Air Support in Peace Enforcement Operations	<i>Improving Close Air Support in Peace Enforcement Operations</i>	Eugeniusz Cieslak	ACSC
The First Blitzkrieg: Lost Lessons from Allen by's Palestine Campaign	<i>Armageddon's Lost Lessons: Combined Arms Operations in Allen by's Palestine Campaign</i>	Greg Daddis	ACSC
International Officer Independent Research	<u>Turkey and European Union Relations</u>	Atilla Darendeli	ACSC
Mechanisms and Coercion in Airpower Theory	<i>Searching for the Silver Bullet: Coercion Mechanisms and Airpower Theory</i>	Robert Ehlers	ACSC
Generation Y and the Military	<i>21st Century Leadership: Leading the Latest Generation Known as the Nexters</i>	Tom Eisenhower	ACSC
Global Strike Task Force	<i>A First Look Analysis of the Global Strike Task Force</i>	Tim Fay	ACSC
International Officer Independent Research	<i>Training Issues Related to the Integration of the Gripen Aircraft into the Hungarian Air Force</i>	Tibor Gardus	ACSC
International Officer Independent Research	<i>Disaster Management in Southern Africa</i>	George Muliokeka	ACSC
Global Attack Implications for Targeting	<i>Struggling to Target: Airpower's Historical Challenge Continues</i>	Scott Gere	ACSC
Aerospace Functions In Contingency Operations: The Use of Fixed Wing Assets Forced-Entry Operations	<i>Forcible Entry Contingency Operations: Effective Employment of Tactical Aerospace Power in Support of the Joint Task Force Commander</i>	Steve Gilland	ACSC

2002 Student Research Papers are available at <https://research.au.af.mil> or <http://research.airuniv.edu>

2002 Research at Maxwell

Sponsor and Requested Topic	Title of Paper	Student	School
International Officer Independent Research	<i>A Comparison of Glider and Paratroop Operations in Air Assaults in Normandy</i>	Flamur Hadushi	ACSC
National Missile Defense-Fact, Fraud and Fiction—Why We Don't Need MND	National Missile Defense-Fact, Fraud and Fiction	Fred Hankerson	ACSC
The Effects of Globalization on Asymmetric Warfare	<i>Globalization and Asymmetrical Warfare</i>	William Hartman	ACSC
Applying Lessons Learned in the Operational use of ULTRA Intelligence to the ATO Process	<i>Classified Capabilities in the ATO Process: An Application of Ultra Lessons Learned</i>	Mark Harysch	ACSC
American-Russian Relations: Alternative to Conditioned An Interaction	<i>Russia: The Pivot Point of America's National Interests</i>	Gretchen Idsinga	ACSC
International Officer Independent Research	<i>New Tool of Terrorism--Airliners</i>	Gabor Illes	ACSC
International Officer Independent Research	<i>Study of Peacekeeping Missions in SADC Member States and Why They Succeed or Fail</i>	Conrad Isaacs	ACSC
The US Courts-Martial System: Would It Survive a Challenge in the European Court of Human Rights?	<i>The European Convention on Human Rights: A Threat to United States- European Security Relations and the United States Military Justice System?</i>	Darla Jackson	ACSC
The West River Meets the East Rock: On the Road to the Next Crusade	<i>The West River Meets the East Rock: On the Road to the Next Crusade?</i>	Richard King	ACSC
Development of Leaders in the Air Force Acquisition Corps	<i>Leadership Competencies for the USAF Acquisition Community</i>	Chris Kinne	ACSC
National Missile Defense in the Post-Terrorist Attack Environment—Should Our Priorities Change?	<i>National Missile Defense: The United States Needs Protection Against the Ballistic Missile Threat</i>	Rob Landers	ACSC
Measuring the Impact of Varying Hangar Queen Standard within the Combat Air Force	<i>An Investigation into the Effects of the Hangar Queen Program</i>	Kelly Larson	ACSC
International Officer Independent Research	<i>Exploring the Prospect for Peace in West Africa: Is ECOMOG the Solution?</i>	Felix Lima	ACSC
UCMJ Jurisdiction Over the ARC Personnel in Today's Air Force	<i>"The Total Force Concept," Asserting Jurisdiction Over Air Reserve Component Forces</i>	Leslie Long	ACSC
The Emergence of Air-mindedness in the US Army	<i>Looking Skyward: The Emergence of an Air-minded Culture in the US Army</i>	Ronald Machoian	ACSC

2002 Research at Maxwell

Sponsor and Requested Topic	Title of Paper	Student	School
International Officer Independent Research	<i>The Rise of Islamic Fundamentalism in Uzbekistan</i>	Bakhrom Madрахimov	ACSC
International Officer Independent Research	<i>How the Political-Military Relationship is Affects the Dominican Armed Forces and National Security</i>	Hector Martinez	ACSC
Delivery of Distance Learning in the Military: Does the Method Match the Culture?	<i>Delivery of Distance Learning in the Military: Does the Method Match the Culture?</i>	Anita McCarthy-McGee	ACSC
International Officer Independent Research	<i>POKHARAN II and Beyond - Emerging Indian Nuclear Posture</i>	Jeetendra Mishra	ACSC
International Officer Independent Research	<i>Tribal Break Up of the Republic of Somalia</i>	Benson Nzilu	ACSC
Assault Aviation in the Soviet Air Force, 1938-1945	<i>Soviet Assault Aviation: Force 1938-1945</i>	Jurijs Plavins	ACSC
International Officer Independent Research	<i>Appropriate Air Defense System for Czech Republic</i>	Jiri Provaznik	ACSC
International Officer Independent Research	<i>The Development of Spanish Airpower Doctrine 1910-1936</i>	Juan Raimundo	ACSC
AU-Initiated Project	<i>USAF Airpower in War: Pursuit of Destructive, Discriminate, and Coercive Effects</i>	Vicky Rast	ACSC
International Officer Independent Research	<i>Transformation of Polish Air Forces: What Is Required to Meet NATO Obligations</i>	Stefan Rutkowski	ACSC
Christian Realism's Response to International Terrorism	<i>Christian Realism's Response to International Terrorism</i>	Paul Sherouse	ACSC
An Analysis of the Role of Teamwork and Communication in Medical Errors	<u>An Examination of the Role of Communication Problems in Preventable Medical Adverse Events</u>	Fred Stone	ACSC
International Officer Independent Research	<u>Territorial Waters of Greece and Air/Maritime Navigation</u>	Theodoros Symos	ACSC
International Officer Independent Research	<i>The Costs of NATO Membership to Estonia</i>	Roman Timofejev	ACSC
Case Study Analysis of Military Accidents, Responsibility and Public Opinion	<i>The Value of Responsibility</i>	Sandra Troeber	ACSC
The Motivations of the Crusades to the Middle East	<i>The Secular Motivations of the Middle East Crusade</i>	George Vicari	ACSC
International Officer Independent Research	<i>Collective Security in South America: Shaping the System and Preparing for the Future with SIVAM</i>	Luis Villagomez-Sanchez	ACSC
International Officer Independent Research	<i>The Aswan High Dam and Water Problems in Egypt</i>	Ismail Waly	ACSC

 2002 Student Research Papers are available at <https://research.au.af.mil> or <http://research.airuniv.edu>

2002 Research at Maxwell

Sponsor and Requested Topic	Title of Paper	Student	School
International Officer Independent Research	<i>Nigeria's Rising Hegemony is Essential to Peace and Stability in West-Africa</i>	Salisu Yusha'u	ACSC

Air Force Fellows

Air Force National Defense University Fellows.

AU-Initiated Project	<i>Fighting Terrorism with Strategy: Revisiting Competing Visions</i>	Thomas Schluckebier	AF Fellows
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Air War College

The Use of Space for Homeland Defense	<i>The High Ground for Homeland Security: The Use of Space in the Fight Against Terrorism</i>	Shiaounung Kuo	ACSC
AU-Initiated Research	<u>Operation Starvation</u>	Gerald Mason	AWC

National Aeronautical Space Administration

Into the Unknown Together: DoD, NASA, and Early Human Spaceflight	<i>Into the Unknown Together: The DoD, NASA, and Early Human Spaceflight</i>	Mark Erickson	ACSC
Prevention of Earth Impact by Hypervelocity Objects from Space	<i>Should the Department of Defense Take on Planetary Defense: A Look at US Space Policy for Defending Against Near Earth Objects</i>	Charles Kowitz	ACSC
Into the Unknown Together: DoD, NASA, and Early Human Spaceflight	<i>Into the Unknown Together: DoD, NASA, and Early Human Spaceflight</i>	Kennedy Wilson	ACSC

School for Advanced Air & Space Studies

AU-Initiated Research	How Is It Possible to Combat International Terrorism Effectively While Employing Only Moral	John Hughes	SAASS
AU-Initiated Research	America's First Air Battles: Lessons Learned or Lessons Lost?	Aldon Purdham	SAASS
AU-Initiated Research	Real-Time Battle Damage Assessment: Panacea or Predicament for Airpower Strategy?	John Rauch	SAASS
AU-Initiated Research	General Wilbur L. Creech and Airpower at the Operational Level of War	Jame Slife	SAASS
AU-Initiated Research	The Air Force and Its Reliance on Technology: Is the Air Force Returning to the "Bomber Will Always get Through" Mentality	Brian Tonnell	SAASS